

# Compact, Robust and Highly Integrated Embedded Box Computers

A Full Range of Embedded Box Computers



- ✓ POI/POS/KIOSK/ATM/Gaming
- ✓ Firewall/VPN
- ✓ Factory Automation
- ✓ Environmental Monitoring System
- ✓ Transportation

Compact, Robust and Highly Integrated Embedded Box Computers



Trusted ePlatform Services

**ADVANTECH**





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## Embedded Box Computers

### ARK Series Feature Component Synergy, Extreme Reliability and Flexibility

Advantech's new ARK Series is a complete line of box computers designed to give developers fast, convenient and simplified solutions for industrial and embedded applications. Ranging in size from ultra compact, all-in-one solutions to full-size CPU card systems, the ARK Series provides developers with high performance computing platforms so they can focus on creating leading applications.

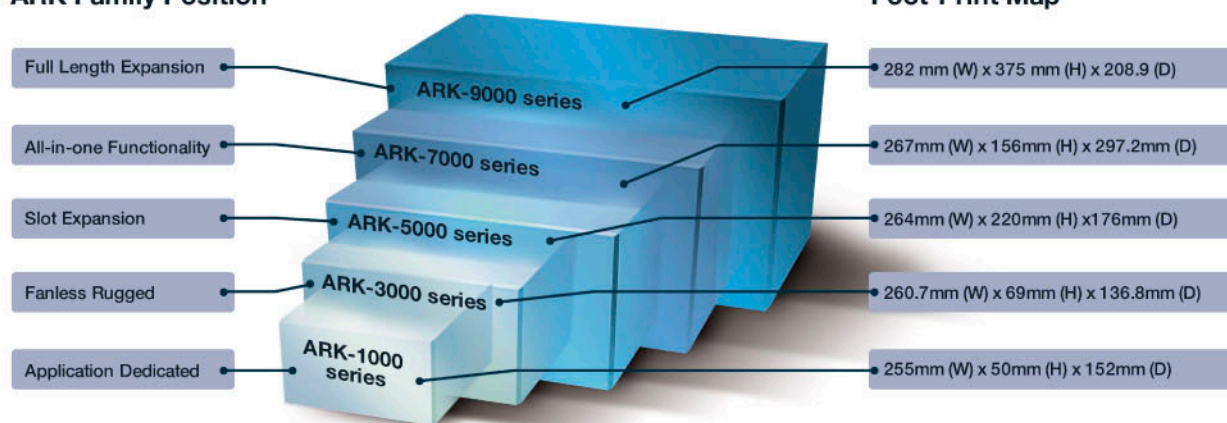
The ARK Series matches customer computing needs by offering a range of form factors, CPUs, storage, connectivity, chassis, I/O configurations, OS support, and customization support. From application specific units to systems with all-in-one functionality, low power AMD Geode and ultra low power Pentium M to more powerful Pentium 4 systems with embedded CE .NET or XPe OS. Turnkey application ready or fully customized systems using Advantech's Build To Order Service (BTOS)/Design To Order Service (DTOS), the ARK series caters for all requirements and can accelerate development of the most dynamic applications.

### A Full Series Lineup

The ARK Series consists of the ARK-1000 Series, an ultra compact application specific system, the ARK-3380 Series of compact fanless solutions, the ARK-5000 Series with up to Pentium M processing power for applications needing an all-in-one solution for the highest computing and multimedia performance, and the ARK-9000 Series for full-size card support along with maximum expansion and performance capability.

### ARK Family Position and Foot-Print

#### ARK Family Position



#### Foot-Print Map

Designed to offer maximum computing power in the most efficient footprint possible, the ARK Series uses a range of processing engines, storage, connectivity and I/O configurations that put scalable computing capability into its most useful perspective.

### The Complete Embedded Box Computer Series

#### The ARK Families

Series	ARK-1000	ARK-3380	ARK-5000	ARK-7000	ARK-9000
Position	Application Dedicated	Fanless Rugged	Slot Expansion, Embedded	All-in-one Functionality	Full Length Expansion
Foot Print	Ultra Compact	Compact	Embedded Slot PC	Powerful, Robust	Full-size
M/B	SOM + Carrier Board	3.5" Biscuit + Module I/O	Half-size Slot PC	MicroATX Compatible	Full-size PICMG/Half Size Slot PC
Power	DC-in	DC-in	DC-in	AC-in	AC-in
Computing	Pentium ~ Celeron	PIII ~ P4	PIII ~ P4	PIII ~ P4	PIII ~ P4
Installation	Wall/DIN/Table	Wall/DIN/Table	Wall/Table	Wall/Table	Wall/Table



## Introduction



### ARK-1350 Series: The Ultra Compact, Fanless Solution

The ARK-1350 is an ultra compact, fanless, fully sealed, robust embedded box computer, designed for space critical applications that require low power consumption. All electronics are protected in a ruggedized, sealed metal housing. No external cooling is needed. Featuring one LAN, two USBs, four Serial communication ports and PC Card interfaces, bringing comprehensive control and communication capabilities.



### ARK-3380 Series: The Most Powerful Fanless Intel Pentium M Solution

The ARK-3380 Series, are compact embedded controllers designed for space critical embedded applications. All computers in the series supply powerful computing capability, fanless operation, low power use, extreme reliability and ruggedness, scalability, flexible I/O configuration and long product life support. This product line uses fanless CPUs featuring low voltage Intel ULV Celeron M 600 MHz, LV Pentium M 1.1 GHz, or LV Pentium M 1.4 GHz CPUs (uFCBGA Package). The series comes housed in an extremely compact cast aluminum chassis that provides great protection from shock, vibration, dust, cold and heat while acting as a functional heat sink to ensure lower temperature operation.



### ARK-5280 Series: Fanless, Half Size Slot, Expandable Embedded Box Computers

The ARK-5280 Series are fanless Intel Pentium M socket 479 application ready embedded box computer solutions designed to provide high level processing needs with embedded expansion capability. Along with strong CPU performance and compact size (137 mm x 189 mm x 221 mm), the ARK-5000 series has 4 x COMM, DVI, and 2 x PCI-slot expansion capability in this application ready platform. Based on a half-size slot PC and backplane, these platforms offer many configuration choices for CPU, memory, HDD, CD/DVD drives. The ARK-5280 Series targets machine-level industrial PC applications and higher level operations that involve data acquisition, distributed process control, database management on a site server and field I/O control. All such systems demand a high performance CPU and specifically configured expansion via PCI slots.



### ARK-7480 Series: All-in-One Application Ready Intel Pentium 4 Embedded Box Computers

The ARK-7480 Series are Intel Pentium 4 socket 478 application-ready embedded box computer solutions designed to provide the highest level processing needs with good expansion capability. Along with excellent CPU performance, (295 mm x 150 mm x 260 mm), the ARK-7480 series offers 6 x COMM, 1 x LPT, LVDS, DVI and 3 x PCI expansion slots for many applications. Based on Advantech industrial motherboard designs, the ARK-7480 Series of platforms offer many configuration choices.



### ARK-9880 Series: Full Length Slot, Expandable & Powerful Embedded Box Computers

The ARK-9880 Embedded Box Computer series is a robust and powerful computer powered by Intel Hyper-Threading technology processors and chipsets: embedded Intel Pentium 4 or Celeron D, up to 3.4 GHz. The ARK-9880 supports high performance DDR SDRAM up to 4 GB. The series supplies three PCI slots and three ISA slots for expansion. The series is ideally suited for building diversified, embedded system applications that require the highest processor performance and scalable expansion: machine automation, industrial plant operation, and cabinet integration.

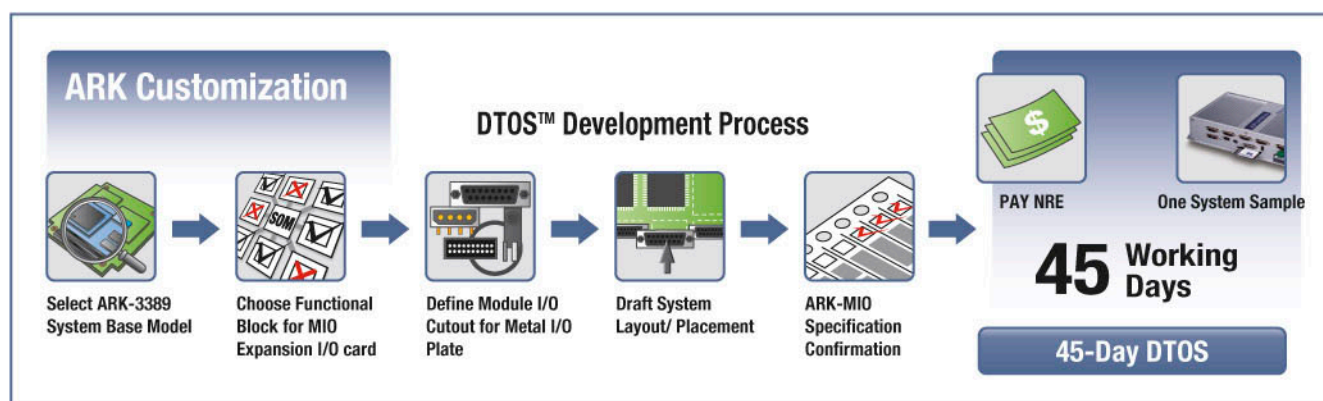
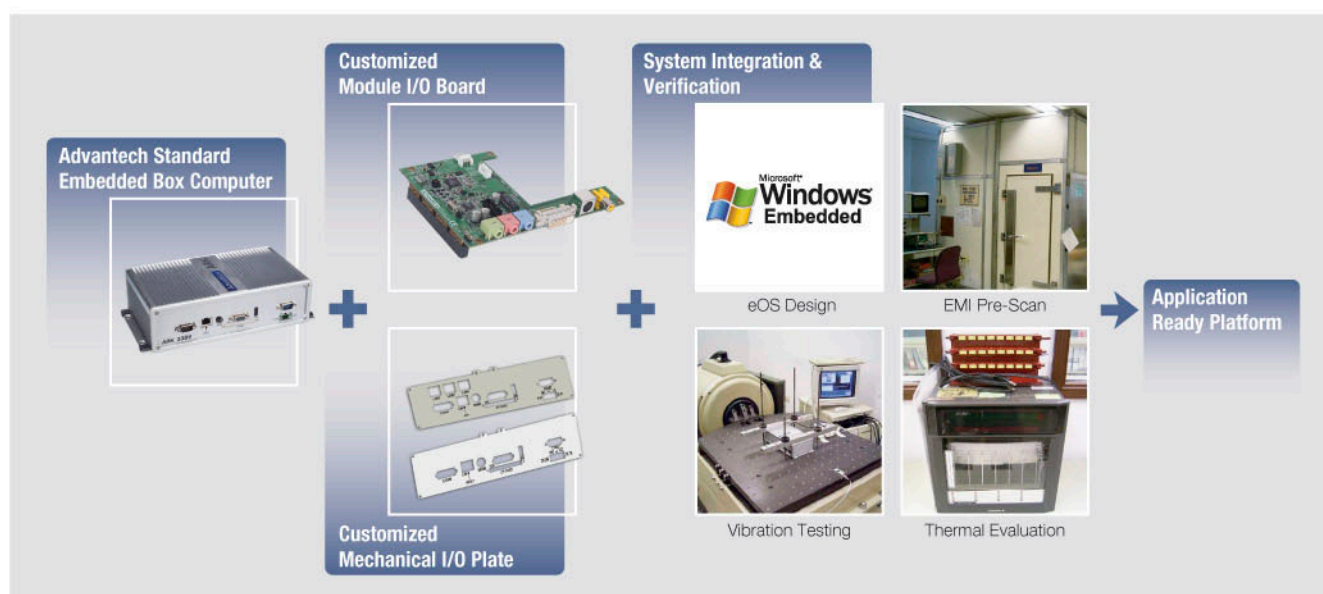


## Modularized Fanless Box Computers for Specific Embedded Application needs

Advantech DTOS offers customers the fastest time-to-market for their application-specific solution needs. Based on Advantech Embedded Fanless Box Computers- ARK series, DTOS provides a choice of preconfigured Module I/O bus applications, customized front/rear I/O faceplate (including logo printing and ID) and choice of memory, storage and OS. Customers can simply choose from desired feature/function sets to get the exact configuration they need.

### Embedded Box Computers Customization Service Benefits

- Starts from 80% ready-made, add your own unique 20% value
- Best fit options for cost / timing / specification



ARK-DTOS can efficiently save time and expense for each project. Based on the market demand, you can quickly make changes to your product through the ARK customization service. All changes can be finished within a short period, getting products onto the market quicker and gaining valuable customer feedback, next generation products can be then be launched that exactly fit specific vertical market requirements.

## Selection Guide

## Embedded Box Computers

Compact, Robust and Highly Integrated Embedded Box Computers



Model		ARK-1350	ARK-1351
Features		PC card slot, four serial port, dual USB, Ethernet	PC card slot, dual serial port, dual USB, dual Ethernet
Form Factor		Fanless, ultra compact, aluminum construction	Fanless, ultra compact, aluminum construction
Processor System	Processor	AMD Geode GX1 300 MHz	AMD Geode GX1 300 MHz
	System Chipset	AMD CS5530A	AMD CS5530A
	BIOS	Award 256 KB Flash BIOS	Award 256 KB Flash BIOS
	System Memory/Socket	Built-In 128MB SDRAM	Built-In 128MB SDRAM
	Display Controller	AMD CS5530A	AMD CS5530A
	Display Memory	1 ~ 4 MB video frame buffer shared system memory	1 ~ 4 MB video frame buffer shared system memory
Display Interface	CRT	Yes with DB-15 connector	Yes with DB-15 connector
	LVDS	N/A	N/A
	DVI	N/A	N/A
	TVOut	N/A	N/A
I/O Interface	Audio	N/A	N/A
	Ethernet	1 x 10/100BaseT	2 x 10/100BaseT
	Keyboard/Mouse	1 x PS2	1 x PS2
	USB	2 x USB 1.1	2 x USB 1.1
	Serial Port	2 x RS-232/485, 2 x RS-232/422/485	2 x RS-232
	Expansion	1 x PC card slot	1 x PC card slot
Storage System	Solid State Disk	1 x CompactFlash Card Type I/II	1 x CompactFlash Card Type I/II
	HDD Drive Bay	N/A	N/A
	Card Reader/FDD Drive Bay	N/A	N/A
	Optical Device (CD/DVD-ROM) Drive Bay	N/A	N/A
Power Supply	Power Management	APM 1.1	APM 1.1
	Output Rating	N/A	N/A
	Input Voltage	DC 9 V ~ 36 V, reversed wiring protection, Typical DC 12 V @ 1.5 A, DC 24 V @ 1 A	DC 10 V ~ 30 V, reversed wiring protection, Typical DC 12 V @ 1.5 A, DC 24 V @ 1 A
Mechanical	Construction	Fanless aluminum construction	Fanless aluminum construction
	Mounting	Wall-mounting, DIN Rail Mounting	Wall-mounting, DIN Rail Mounting
	Dimensions (W x H x D)	188.8 x 35.5 x 106.5 mm	188.8 x 35.5 x 106.5 mm
	Weight	0.8 kg	0.8 kg
Environmental	Operating Temperature	-10 ~ 55 °C	-10 ~ 55 °C
	Vibration Loading Duration Operation	2G, IEC 68-2-6, sine 5 ~ 500 Hz, 1 Oct/min., 1 hr/axis	2G, IEC 68-2-6, sine 5 ~ 500 Hz, 1 Oct/min., 1 hr/axis
	Shock During Operation	When system is wall mounted: 50G, IEC 68-2-27, half sine, 11 ms duration	When system is wall mounted: 50G, IEC 68-2-27, half sine, 11 ms duration
		When system is DIN Rail Mounting: 20G, IEC 68-2-27, half sine, 11 ms duration	When system is DIN Rail Mounting: 20G, IEC 68-2-27, half sine, 11 ms duration
	Relative Humidity	95% @ 40 °C	95% @ 40 °C
	EMC	CE, FCC	CE, FCC
	Safety	UL	UL
Embedded Software Options		Windows CE.NET 5.0	Windows CE.NET 5.0
Reference Page		P.8	P.10





NEW



NEW



Model		ARK-3389	ARK-3384	ARK-3383
Features		Base model with MIO expansion socket	Base model with MIO expansion socket	Base model with MIO expansion socket
Form Factor		Fanless aluminum construction	Fanless aluminum construction	Fanless aluminum construction
Processor System	Processor	Intel Celeron ULV 600 MHz, Intel Pentium M LV 1.1 GHz, Intel Pentium M LV 1.4 GHz	Intel Celeron ULV 600 MHz, Intel Pentium M LV 1.1 GHz, Intel Pentium M LV 1.4 GHz	Intel Celeron ULV 600 MHz, Intel Pentium M LV 1.1 GHz, Intel Pentium M LV 1.4 GHz
	System Chipset	Intel 852GM or Intel 855GME	Intel 852GM or Intel 855GME	Intel 852GM or Intel 855GME
	BIOS	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit
	System Memory	Up to 1 GB DDR SDRAM SO-DIMM	Up to 1 GB DDR SDRAM SO-DIMM	Up to 1 GB DDR SDRAM SO-DIMM
Display Interface	CRT	Yes with DB-15 connector	Yes with DB-15 connector	Yes with DB-15 connector
	LVDS	36-bit LVDS	36-bit LVDS	36-bit LVDS
	DVI	N/A	N/A	N/A
	TVOut	N/A	N/A	N/A
I/O Interface	Audio	N/A	N/A	N/A
	Ethernet	1 x 10/100BaseT	1 x 10/100BaseT	1 x 10/100BaseT
	Keyboard/Mouse	1 x PS/2	1 x PS/2	1 x PS/2
	USB	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
	Serial Port	1 x RS-232, 1 x RS-232/422/485	1 x RS-232, 1 x RS-232/422/485	1 x RS-232, 3 x RS-232/422/485
Storage System	Expansion	MIO Socket	MIO Socket	MIO Socket
	Solid State Disk	One socket supports 1 x CompactFlash card type I/II	One socket supports 1 x CompactFlash card type I/II	One socket supports 1 x CompactFlash card type I/II
Power Supply	HDD Drive Bay	1 x 2.5" HDD bay	1 x 2.5" HDD bay	1 x 2.5" HDD bay
	Power Management	APM 1.2, ACPI supported	APM 1.2, ACPI supported	APM 1.2, ACPI supported
	Output Rating	46 W	46 W	46 W
	Input Voltage	DC 12 V ~ 24 V, typical DC 12 V @ 4.5 A, DC 16 V @ 3.4 A, DC 19 V @ 2.9 A, DC 24 V @ 2.3 A	DC 12 V ~ 24 V, typical DC 12 V @ 4.5 A, DC 16 V @ 3.4 A, DC 19 V @ 2.9 A, DC 24 V @ 2.3 A	DC 12 V ~ 24 V, typical DC 12 V @ 4.5 A, DC 16 V @ 3.4 A, DC 19 V @ 2.9 A, DC 24 V @ 2.3 A
Mechanical	Construction	Fanless aluminum construction	Fanless aluminum construction	Fanless aluminum construction
	Mounting	Desktop/Wall-mounting, DIN Rail Mounting	Desktop/Wall-mounting, DIN Rail Mounting	Desktop/Wall-mounting, DIN Rail Mounting
	Dimensions (W x H x D)	264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")	264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")	264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
	Weight	2 kg	2 kg	2 kg
Environmental	Operating Temperature	When system is equipped with Industrial Grade CompactFlash disk only: -20 ~ 60 °C	When system is equipped with Industrial Grade CompactFlash disk only: -20 ~ 60 °C	When system is equipped with Industrial Grade CompactFlash disk only: -20 ~ 60 °C
		When system is equipped with 2.5-inch hard disk: 0 ~ 45 °C	When system is equipped with 2.5-inch hard disk: 0 ~ 45 °C	When system is equipped with 2.5-inch hard disk: 0 ~ 45 °C
	Vibration Loading Duration Operation	When system is equipped with CompactFlash disk only: 5 G, IEC 68-2-64, random, 5~500 Hz, 1 Oct./min, 1 hr/axis.	When system is equipped with CompactFlash disk only: 5 G, IEC 68-2-64, random, 5~500 Hz, 1 Oct./min, 1 hr/axis.	When system is equipped with CompactFlash disk only: 5 G, IEC 68-2-64, random, 5~500 Hz, 1 Oct./min, 1 hr/axis.
		When system is equipped with 2.5-inch hard disk: 1 G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.	When system is equipped with 2.5-inch hard disk: 1 G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.	When system is equipped with 2.5-inch hard disk: 1 G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
	Shock During Operation	When system equipped with CompactFlash disk only: 50 G, IEC 68-2-27, half sine, 11 ms duration	When system equipped with CompactFlash disk only: 50 G, IEC 68-2-27, half sine, 11 ms duration	When system equipped with CompactFlash disk only: 50 G, IEC 68-2-27, half sine, 11 ms duration
		When system equipped with 2.5-inch hard disk: 20 G, IEC 68-2-27, half sine, 11 ms duration	When system equipped with 2.5-inch hard disk: 20 G, IEC 68-2-27, half sine, 11 ms duration	When system equipped with 2.5-inch hard disk: 20 G, IEC 68-2-27, half sine, 11 ms duration
	Relative Humidity	95 % @ 40 °C (non-condensing)	95 % @ 40 °C (non-condensing)	95 % @ 40 °C (non-condensing)
Embedded Software Options		Windows® XP Embedded, Windows 2000/XP	Windows® XP Embedded, Windows 2000/XP	Windows® XP Embedded, Windows 2000/XP
Reference Page		P.12	P.14	P.17

## Selection Guide

## Embedded Box Computers

Compact, Robust and Highly Integrated Embedded Box Computers



Model		ARK-3382	ARK-3381	ARK-3380
Features		Four LAN port	Seven serial port	Multiple video interface
Form Factor		Fanless aluminum construction	Fanless aluminum construction	Fanless aluminum construction
Processor System	Processor	Intel Celeron ULV 600 MHz, Intel Pentium M LV 1.1 GHz, Intel Pentium M LV 1.4 GHz	Intel Celeron ULV 600 MHz, Intel Pentium M LV 1.1 GHz, Intel Pentium M LV 1.4 GHz	Intel Celeron ULV 600 MHz, Intel Pentium M LV 1.1 GHz, Intel Pentium M LV 1.4 GHz
	System Chipset	Intel 852GM or Intel 855GME	Intel 852GM or Intel 855GME	Intel 852GM or Intel 855GME
	BIOS	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit
	System Memory	Up to 1 GB DDR SDRAM SO-DIMM	Up to 1 GB DDR SDRAM SO-DIMM	Up to 1 GB DDR SDRAM SO-DIMM
Display Interface	CRT	Yes with DB-15 connector	Yes with DB-15 connector	Yes with DB-15 connector
	LVDS	36-bit LVDS	36-bit LVDS	36-bit LVDS
	DVI	N/A	N/A	DVI 1.0
	TVOut	N/A	N/A	S-video, Composite video
I/O Interface	Audio	N/A	N/A	AC97 Audio, Line_In, Spk_Out, Mic_In
	Ethernet	4 x 10/100BaseT	1 x 10/100BaseT	1 x 10/100BaseT
	Keyboard/Mouse	1 x PS/2	1 x PS/2	1 x PS/2
	USB	1 x USB 2.0	1 x USB 2.0	1 x USB 2.0
	Serial Port	1 x RS-232, 1 x RS-232/422/485	2 x RS-232, 5 x RS-232/422/485	1 x RS-232, 1 x RS-232/422/485
	Expansion	N/A	N/A	N/A
Storage System	Solid State Disk	One socket supports 1 x CompactFlash® card type I/II	One socket supports 1 x CompactFlash® card type I/II	One socket supports 1 x CompactFlash® card type I/II
	HDD Drive Bay	1 x 2.5" HDD bay	1 x 2.5" HDD bay	1 x 2.5" HDD bay
Power Supply	Power Management	APM 1.2, ACPI supported	APM 1.2, ACPI supported	APM 1.2, ACPI supported
	Output Rating	46 W	46 W	46 W
	Input Voltage	DC 12 V ~ 24 V, typical DC 12 V @ 4.5 A, DC 16 V @ 3.4 A, DC 19 V @ 2.9 A, DC 24 V @ 2.3 A	DC 12 V ~ 24 V, typical DC 12 V @ 4.5 A, DC 16 V @ 3.4 A, DC 19 V @ 2.9 A, DC 24 V @ 2.3 A	DC 12 V ~ 24 V, typical DC 12 V @ 4.5 A, DC 16 V @ 3.4 A, DC 19 V @ 2.9 A, DC 24 V @ 2.3 A
Mechanical	Construction	Fanless aluminum construction	Fanless aluminum construction	Fanless aluminum construction
	Mounting	Desktop/Wall-mounting, DIN Rail Mounting	Desktop/Wall-mounting, DIN Rail Mounting	Desktop/Wall-mounting, DIN Rail Mounting
	Dimensions (W x H x D)	264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")	264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")	264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
	Weight	2 kg	2 kg	2 kg
Environmental	Operating Temperature	When system is equipped with industrial grade CompactFlash disk only: -20 ~ 60 °C	When system is equipped with industrial grade CompactFlash disk only: -20 ~ 60 °C	When system is equipped with industrial grade CompactFlash disk only: -20 ~ 60 °C
		When system is equipped with 2.5-inch hard disk: 0 ~ 45 °C	When system is equipped with 2.5-inch hard disk: 0 ~ 45 °C	When system is equipped with 2.5-inch hard disk: 0 ~ 45 °C
	Vibration Loading Duration Operation	When system is equipped with CompactFlash disk only: 5 G, IEC 68-2-64, random, 5~500 Hz, 1 Oct./min, 1 hr/axis.	When system is equipped with CompactFlash disk only: 5 G, IEC 68-2-64, random, 5~500 Hz, 1 Oct./min, 1 hr/axis.	When system is equipped with CompactFlash disk only: 5 G, IEC 68-2-64, random, 5~500 Hz, 1 Oct./min, 1 hr/axis.
		When system is equipped with 2.5-inch hard disk: 1 G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.	When system is equipped with 2.5-inch hard disk: 1 G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.	When system is equipped with 2.5-inch hard disk: 1 G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1hr/axis.
	Shock During Operation	When system is equipped with CompactFlash disk only: 50 G, IEC 68-2-27, half sine, 11 ms duration	When system is equipped with CompactFlash disk only: 50 G, IEC 68-2-27, half sine, 11 ms duration	When system is equipped with CompactFlash disk only: 50 G, IEC 68-2-27, half sine, 11 ms duration
		When system is equipped with 2.5-inch hard disk: 20 G, IEC 68-2-27, half sine, 11 ms duration	When system is equipped with 2.5-inch hard disk: 20 G, IEC 68-2-27, half sine, 11 ms duration	When system is equipped with 2.5-inch hard disk: 20 G, IEC 68-2-27, half sine, 11 ms duration
	Relative Humidity	95 % @ 40 °C (non-condensing)	95 % @ 40 °C (non-condensing)	95 % @ 40 °C (non-condensing)
	EMC	CE, FCC	CE, FCC	CE, FCC
	Safety	UL	UL	UL
Embedded Software Options		Windows® XP Embedded, Windows 2000/XP	Windows® XP Embedded, Windows 2000/XP	Windows® XP Embedded, Windows 2000/XP
Reference Page		P.20	P.23	P.26





Model		ARK-5280	ARK-7480	ARK-9880
Features		Half size slot expansion	All-in-one, high computing	Full size slot expansion
Form Factor		Fanless, rugged aluminum construction	Fanless, rugged aluminum construction	Full length slot expansion; rugged heavy metal construction
Processor System	Processor	Intel Pentium M/CeleronM Up to 1.8 GHz, Socket 479	Intel Pentium 4/Celeron D Up to 2.8 GHz, Socket 478	Intel Pentium 4HT/Celeron D up to 3.4 GHz, Socket 478
	System Chipset	Intel 855 GME + ICH4	Intel 852 GME + ICH	Intel 865 GV + ICH5
	BIOS	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit
	System Memory	Up to 2 GB DDR SDRAM (Dual 200-pin SO-DIMM)	Up to 2 GB DDR SDRAM DIMM (Dual 184-pin DIMM)	Integrated 2D/3D graphic engine built-in Intel 865 GV GMCH
	Display Controller	Intel Extreme Graphic 2 integrated in Intel 855 GME GMCH	Intel Extreme Graphic 2 integrated in Intel 855 GME GMCH	Integrated 2D/3D graphic engine built-in Intel 865 GV GMCH
	Display Memory	64 MB frame buffer shared from system memory	64 MB frame buffer shared from system memory	64 MB frame buffer shared from system memory
Display Interface	CRT	Yes with DB-15 connector	Yes with DB-15 connector	Yes with DB-15 connector
	LVDS	N/A	36-Bit LVDS	N/A
	DVI	Yes, DVI 1.0 compliant	Yes, DVI 1.0 compliant	N/A
	TVOut	N/A	N/A	N/A
I/O Interface	Audio	AC97 audio, line-in, spk-out, mic-in	AC97 audio, line-in, spk-out, mic-in	AC97 audio, line-in, spk-out, mic-in
	Ethernet	1 x 10/100BaseT	2 x 10/100BaseT	1 x 10/100Base-T
	Keyboard/Mouse	1 x PS/2	2 x PS/2	1 x PS/2
	USB	2 x USB 2.0 + optional 2 x USB 2.0 via bracket	6 x USB 2.0	2 x USB 2.0
	Serial Port	3 x RS-232, 1 x RS-232/422/485	5 x RS-232, 1 x RS-232/422/485	2 x RS-232
	Expansion	2 x PCI slots	3 x PCI slots, 1 x miniPCI slot	3 x PCI slots, 3 x ISA slots
Storage System	Solid State Disk	1 x CompactFlash card type I/II	1 x CompactFlash card type I/II	N/A
	HDD Drive Bay	1 x 2.5" HDD bay	1 x 3.5" HDD bay	2 x 3.5" HDD bay
	Card Reader	N/A	Yes, for model: ARK-7480-200A1	N/A
	Optical Device (CD/DVD-ROM) Drive Bay	N/A	Yes, for model: ARK-7480-200A1	Yes
Power Supply	Power Management	APM 1.2, ACPI supported	APM 1.2, ACPI supported	APM 1.2, ACPI supported
	Output Rating	DC 120 W	AC 250 W, ATX	AC 300 W, ATX
	Input Voltage	DC 9 V ~ 35 V, 14 A ~ 3.5 A	AC 110 V ~ 240 V	AC 100 V ~ 240 V
Mechanical	Construction	Fanless rugged aluminum construction	Fan based robust metal & aluminum construction	Fan based robust metal construction
	Mounting	Desktop/Wall-mounting	Desktop/Wall-mounting	Desktop/Wall-mounting
	Dimensions (W x H x D)	137 x 189 x 221 mm	295 x 150 x 260 mm (for Model ARK-7480-100A1), 295 x 150 x 260 mm (for Model ARK-7480-200A1)	282 x 375.8 x 208.9 mm
	Weight	5 kg	6.5 kg	10 kg
Environmental	Operating Temperature	When system is equipped with 2.5-inch Hard Disk: 0 ~ 45 °C	0 ~ 45 °C	0 ~ 45 °C
		When system is equipped with Compact Flash Disk only: -20 ~ 55° C		
	Vibration Loading Duration Operation	When system is equipped with 2.5-inch Hard Disk only: 1G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.	1 Grms, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.	1 Grms, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
		When system is equipped with Compact Flash Disk only: 5G, IEC 68-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.		
	Shock During Operation	When system is equipped with 2.5-inch Hard Disk: 20G, IEC 68-2-27, half sine, 11 ms duration	10 G, IEC 68-2-27, half sine, 11 ms duration	10 G, IEC 68-2-27, half sine, 11 ms duration
		When system is equipped with Compact Flash Disk only: 50G, IEC 68-2-27, half sine, 11 ms duration		
	Relative Humidity	95 % @ 40 °C	95 % @ 40 °C	95 % @ 40 °C
	EMC	CE, FCC	CE, FCC	CE, FCC
	Safety	UL	UL	UL
Embedded Software Options		Windows XP Embedded, Windows 2000/XP	Windows XP Embedded, Windows 2000/XP	Windows 2000/XP
Reference Page		P.29	P.32	P.35

# ARK-1350

**GX1-300 with Four Serial Ports PC Card, LAN, 2 x USB, Ultra Compact, Fanless, Embedded Box Computer**



CE FCC

## Features

- Built-in GX1-300 MHz CPU with 128 MB SDRAM
- Four serial ports and dual USB ports
- One PC card slot supports PCMCIA and CardBus card
- Comprehensive communication and connectivity capacity
- Ultra compact size, robust construction with fanless operation
- Windows® CE. NET ready solution

## Introduction

The ARK-1350 is an ultra compact, fanless fully sealed, robust embedded box computer, designed for space critical application that require low power consumption. All electronics are protected in a ruggedized, sealed housing. No external cooling is needed. Featuring one LAN, two USB, and four Serial communication ports; as well as PC Card interfaces, that brings comprehensive control and communication capability to fulfill diverse application requirements. Therefore, the ARK-1350 is an ideal solution for stand-alone and embedded gateway applications.

### Comprehensive Communication and Control Capacity

Rich communication interface: Ethernet, four Serial Ports, dual USB and a PC card slot make the ARK-1350 an ideal solution for diverse applications:

- Data communication gateway for navigation and transportation
- POI/Kiosk control, self-service of entrance control, ticketing, payment and information preview system

### Ultra Compact Size with Fanless Operation

- Small dimensions: 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- Fanless operation in an aluminum sealed construction
- Supports desktop/wall/Din-Rail mounting under space critical installation conditions

### Optimized Integration in a Robust Casting Construction

- Few parts, zero cable, easy integration, easy maintenance, to reduce investment
- System is "Ready-to-Run" as supplied
- Accept wide range of DC power input of DC 9 V ~ DC 30 V

## Specifications

### Process Core Logic System

- **CPU** AMD® Geode® GX1-300 MHz processor
- **Chipset** AMD CS5530A
- **BIOS** AWARD® 256 KB Flash BIOS
- **System Memory** Built-in 128 MB SDRAM

### Display

- **Chipset** AMD CS5530A
- **Display Memory** 1 ~ 4 MB video frame buffer share the system memory
- **Display Interface** CRT interface by a D-Sub 15-pin connector and a mini 6-pin VGA connector

### Ethernet

- **Ethernet Controllers** Realtek® RTL8139C 10/100BaseT Ethernet controller
- **Ethernet Connectors** 1 x RJ45

### PC Card

- **1 x PC Card Slot** Supports CardBus (Card-32) card and 16-bit (PCMCIA 2.1/JEIDA4.2) card  
Supports +5 V, +3.3 V and +12 V @ 120 mA working power

### Serial Port

- **Controllers** Oxford OX16 PCI954 UARTs with 128 bytes FIFOs
- **Four Serial Ports** 2 x RS-232/485 ports (COM1 and COM2)  
2 x RS-232/422/485 ports (COM 3 and COM4)  
All ports use the same IRQ assigned by BIOS

### Other

- **Keyboard/Mouse** Supports PS/2 mouse and PS/2 keyboard
- **USB** 2 x USB ports, USB 1.0 compliant



## Software Options

WindowsCE. NET 5.0 (bundled in ARK-1350-2G0A1)

## Storage

Supports CompactFlash socket for type I/II CompactFlash disk

## Front Panel External I/O

- 1 x PS/2 Connector: Supports PS/2 Keyboard and PS/2 Mouse
- 2 x USB ports as USB 1 and USB 2, Supports dual USB Connection
- 1 x PC Card (PCMCIA/CardBus) Slot
- 1 x D-Sub 9-pin Connector as VGA/CRT Connector
- 1 x Mini 6-pin Connector as VGA/CRT Connector
- 1 x Reset Button
- 1 x RS-232/422/485 Serial Ports as COM4



## Mechanical

- Construction** Aluminum housing
- Mounting** Din-Rail mounting, Desk/wall-mounting
- Dimensions (W x H x D)** 188.8 x 35.5 x 106.5 mm (7.5" x 1.4" x 4.2")
- Weight** 0.8 KG

## Power Supply

- Input Voltage** 9 - 36 V DC, reversed wiring protection
- Power Consumption** 0.6 A max under 24 V power input, or 1.2 A max under +12 V power input
- Power Requirement** Typical 1 A @ +24 V power input  
Typical 1.5 A @ +12 V power input

## Environmental Specification

- Operation Temperature** -10 ~ 55° C (14 ~ 131° F)
- Related Humidity** 95 % @ 40° C
- Vibration During Operation** 2 G, IEC 68-2-6, sine, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis
- Shock During Operation** When system is wall mounted: 50 G, IEC 68-2-27, half sine, 11 ms duration  
When system is DIN-rail mounted: 20 G, IEC 68-2-27, half sine, 11 ms duration

## Rear Panel External I/O

- 2 x RS-232/485 serial ports as COM1 and COM2
- 1 x RS-232/422/485 serial ports as COM3
- 1 x RJ45 Port: Supports 10/100Base-T Ethernet Connection
- 1 x Phoenix Type of Power Input Connector



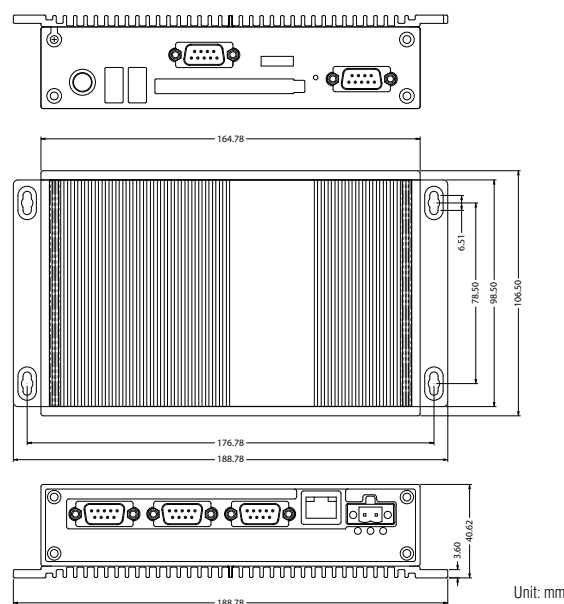
## Packing List

- 1 x ARK-1350 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable
- 1 x 6-pin to D-Sub 15-Pin 10cm VGA Cable
- 1 x Driver Utility CD

## Ordering Information

- ARK-1350-1G0A1** AMD GX1-300 MHz Embedded Box Computer with Card Bus slot, 1 x LAN, 2 x USB, 4 x COM and 128 MB SDRAM
- ARK-1350-2G0A1** AMD GX1-300 MHz Embedded Box Computer with Card Bus slot, 1 x LAN, 2 x USB, 4 x COM, 128 MB SDRAM, and 128 MB Compact Flash Disk pre-installed with Windows CE.NET 5.0 Professional Plus

## Dimensions



# ARK-1351

**GX1-300 with PC Card Slot, 2 x LAN,  
2 x USB, 2 x RS-232 Ultra Compact,  
Fanless, Embedded Box Computer**



CE FCC

## Features

- Built-in GX1-300 MHz CPU with 128 MB SDRAM
- Dual serial and USB ports
- One PC card slot, supports PCMCIA and CardBus cards
- Intensive communication and control capacity
- Ultra compact size, robust construction with fanless operation
- Windows® CE.NET ready solution

## Introduction

The ARK-1351 is an ultra compact, fanless fully sealed, robust embedded box computer, designed for space critical applications that require low power consumption. All electronics are protected in a ruggedized, sealed housing. No external cooling is needed. Featuring dual LAN dual USB, dual RS-232 communication ports, and PC Card interfaces that bring comprehensive connective capability to fulfill diverse application requirements. Therefore, the ARK-1351 is an ideal solution for stand-alone and embedded gateway applications.

### Intensive Communication and Control Capacity

Rich communication interface: Ethernet, four Serial Ports, dual USB and a PC card slot make the ARK-1351 an ideal solution for diverse applications:

- Data communication gateway for navigation and transportation
- POI/Kiosk control for self-service of ticketing, payment and information preview
- Security gateway, and web server

### Ultra Compact Size with Fanless Operation

- Small dimensions: 188.8 x 106.5 x 35.5 mm (7.5" x 4.2" x 1.4")
- Fanless operation in an aluminum sealed construction
- Support desktop/wall/Din-Rail mounting under space critical installation conditions

### Optimized Integration in a Robust Casting Construction

- Few parts, zero cable, easy integration, easy maintenance, to reduce investment
- System is "Ready-to-Run" as supplied
- Accept wide range of DC power input of DC 10 V ~ DC 30 V

## Specifications

### Processor Core Logic System

- **CPU** AMD® Geode® GX1-300 MHz processor
- **Chipset** AMD CS5530A
- **BIOS** AWARD® 256 KB Flash BIOS
- **System Memory** Built-In 128 MB SDRAM

### Display

- **Chipset** AMD CS5530A
- **Display Memory** 1 ~ 4 MB video frame buffer share the system memory
- **Display Interface** CRT Interface by a D-Sub 15-pin connector

### Ethernet

- **Ethernet Controllers** Dual Realtek® RTL8139C 10/100BaseT Ethernet controllers
- **Ethernet Connectors** 2 x RJ45

### PC Card

- **1 x PC Card Slot** Support CardBus (Card-32) card and 16-bit (PCMCIA 2.1/JEIDA4.2) card  
Support +5 V, +3.3 V and +12 V @ 120 mA working power

### Serial Port

- **2 x Standard RS-232** Speed: RS-232: 50 ~ 115.2 Kbps

### Other

- **Keyboard/Mouse** Supports PS/2 Mouse and PS/2 Keyboard
- **USB** 2 x USB ports, USB 1.0 compliant

### Software Options

Windows CE.NET 5.0 (bundled in ARK-1351-2G0A1)



## Storage

Supports CompactFlash socket for type I/II CompactFlash disk

## Front Panel External I/O

- 2 x RJ-45 Ports as LAN1 and LAN 2, Supports Dual Ethernet Connection
- 1 x PC Card (PCMCIA/CardBus) Slot
- 2 x USB ports as USB 1 and USB 2, Supports Dual USB Connection



## Mechanical

- **Construction** Aluminum housing
- **Mounting** Din-Rail mounting, Desk/wall-mounting
- **Dimensions (W x H x D)** 188.8 x 35.5 x 106.5 mm (7.5" x 1.4" x 4.2")
- **Weight** 0.8 kg

## Power Supply

- **Input Voltage** 10 - 30 V DC, reversed wiring protection
- **Power Consumption** 0.6 A max under 24 V power input, or 1.2 A max under +12 V power input
- **Power Requirement** Typical 1 A @ +24 V power input  
Typical 1.5 A @ +12 V power input

## Environmental Specification

- **Operation Temperature** -10 ~ 55° C (14 ~ 131° F)
- **Related Humidity** 95 % @ 40° C
- **Vibration During Operation** 2 G, IEC 68-2-6, sine, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis
- **Shock During Operation** When system is wall mounted: 50 G, IEC 68-2-27, half sine, 11 ms duration  
When system is DIN-rail mounted: 20 G, IEC 68-2-27, half sine, 11ms duration

## Rear Panel External I/O

- 2 x Serial Ports as COM1 and COM2, Supports RS-232 Interface
- 1 x VGA/CRT Connector
- 1 x Reset Button
- 1 x PS/2 Connector: Supports PS/2 Keyboard and PS/2 Mouse
- 1 x Phoenix Type of Power Input Connector



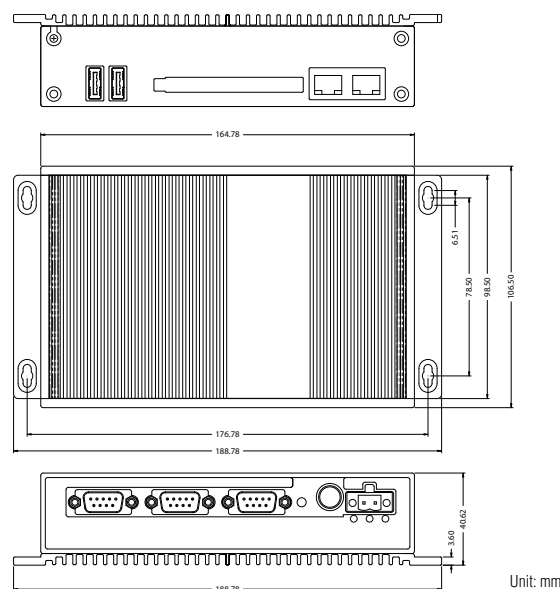
## Packing List

- 1 x ARK-1351 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable
- 1 x Driver Utility CD

## Ordering Information

- **ARK-1351-1G0A1** AMD GX1-300 MHz Embedded Box Computer with PC card slot, 2 x LAN, 2 x USB, 2 x COM and 128 MB SDRAM,
- **ARK-1351-2G0A1** AMD GX1-300 MHz Embedded Box Computer with PC card slot, 2 x LAN, 2 x USB, 2 x COM, 128 MB SDRAM, and 128 MB Compact Flash Disk pre-installed with Windows CE.NET 5.0 Professional Plus

## Dimensions



# ARK-3389

## Intel® Pentium® M Fanless Embedded Box Computer



### Introduction

The ARK-3389 fanless Embedded Box Computer is the ideal application ready system platform solution. All electronics are protected in a robust, compact sealed housing for embedding into a housing, or as a stand-alone application, where space is critical and the environment is harsh.

#### Highly Robust Casting Construction

- Fanless operation in aluminum sealed construction
- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions

#### Highly Compact Size

- With its maximum mounting height of 69 mm, the ARK-3389 can be used under space critical installation conditions

#### Highly Scalable Performance with Low Power Consumption

- Pentium M class processors bring high computing performance with low power consumption

#### Optimized Integration

- Few parts, easy integration, easy maintenance to reduce investment
- Systems are supplied "Ready-to-Run"
- Long life cycle support for product continuity

#### Wide Range of Power Sources

- Wide range of DC 12 V ~ 24 V power source offers flexibility of power input for various automation environments.

#### ARK-BTOS Service

The ARK-3389 can be configured with the Advantech ARK-MIO Application Kit and Advantech certificated peripherals, in cooperation with the Advantech ARK-BTOS Service to suit diverse application fields.

#### ARK-DTOS Service

Distinctive customized system design and hardware expansions can be implemented project by project using Advantech ARK-DTOS service.

### Features

- Built-in Ultra Low Voltage Intel® Celeron® or Low Voltage Intel Pentium® M processor
- Sealed construction with fanless operation
- Anti-Vibration to ensure maximum reliability
- Easy integration, easy maintenance, few parts, and wide range of power source

### Specifications

#### Processor Core Logic System

- **CPU** Intel uFCBGA 479-pin of Ultra Low Voltage Celeron or Intel Pentium M Low Voltage Processor  
ULV Celeron M 600 MHz (ARK-3389-1M0A1)  
LV Pentium M 1.1 GHz (ARK-3389-1S1A1)  
LV Pentium M 1.4 GHz (ARK-3389-1S4A1)
- **System Chipset** Intel 852GM GMCH or Intel 855GME Chipset  
Intel ICH4 Chipset  
400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** 1 x 200-pin SODIMM sockets,  
1 x DDR 200-pin SODIMM, Max. 1 G

#### Display

- **Chipset** Integrated graphics built-in Intel 852GM GMCH, or Intel 855GME GMCH, utilizing Intel Extreme Graphics 2 technology
- **Display Memory** Dynamic Video Memory Allocation up to 32 MB
- **Display Interface** CRT Interface  
36-bit LVDS interface

#### Ethernet

- **Ethernet Controller** Intel 82551ER 10/100BaseT Ethernet Controller

#### Other

- **Watchdog timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** Supports PS/2 Mouse and PS/2 Keyboard
- **USB** USB 2.0 compliant

#### Software Options

Windows® XP Embedded, Windows 2000/XP

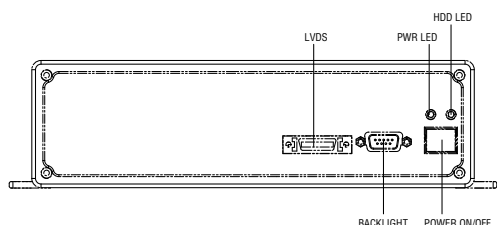
#### Storage

Supports drive bay space for 2.5" HDD  
Supports CompactFlash socket for type I/II CompactFlash disk

### Front Panel External I/O

- 1 x LVDS Port by D-Sub Connector
- 1 x Backlight On/Off Control Connector
- 1 x Power On/Off Button

### Front Panel External I/O Mechanical Layout/Drawing



### Mechanical

- Construction** Aluminum housing
- Mounting** Din-Rail mounting  
Desk/wall-mounting
- Dimensions (W x H x D)** 264.5 x 69.2 x 137.25 mm  
(10.41" x 2.72" x 5.4")
- Weight** 2 kg
- Power Supply**
  - Output Rating** 46 W
  - Fuse Rating** 7 A @ 125 V
  - Input Voltage** 12 VDC ~ 24 VDC, Typical 12 VDC @ 4.5 A,  
16 VDC @ 3.4 A, 19 VDC @ 2.9 A, 24 VDC @ 2.3 A

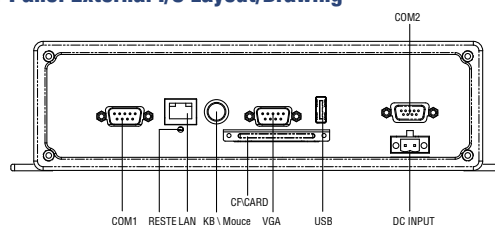
### Environment Specifications

- Operating Temperature** When system is equipped with Industrial Grade CompactFlash Disk only -20 ~ 60° C  
When system is equipped with 2.5-inch hard disk 0 to 45° C
- Relative Humidity** 95 % @ 40° C (non-condensing)
- Vibration Loading During Operation** When system is equipped with CompactFlash disk only: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.  
When system is equipped with 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
- Shock During Operation** When system is equipped with CompactFlash disk only: 50 G, IEC 60068-2-27, half sine, 11 ms duration  
When system is equipped with hard disk : 20 G, IEC 60068-2-27, half sine, 11 ms duration
- EMC Approved** CE, FCC
- Safety Approved** UL

### Rear Panel External I/O

- 1 x Serial Port: Supports RS-232 Interface as COM1
- 1 x Serial Port Supports RS-232/422/485 interface as COM2 (Note: The default setting of COM2 is RS-232. The RS-422/485 mode of COM2 can be supported via replacing the internal cable and adjusting the jumper inside of system)
- 1 x RJ45 Port: Support Ethernet Connection
- 1 x PS/2 Connector: Supports PS/2 Keyboard and PS/2 Mouse
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x USB 2.0 Connector
- 1 x Phoenix Type of Power Input Connector

### Rear Panel External I/O Layout/Drawing



### Packing list

- 1 x ARK-3389 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD
- 1 x Flat Cable support RS-485/RS-422 mode for COM2 serial port (P/N: 1700001967)
- 1 x 2-P Phoenix to DC-Jack power cable (P/N: 1700001394)

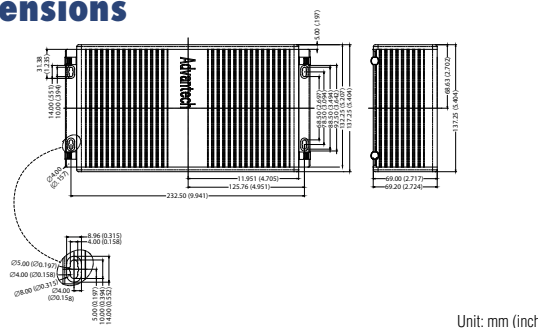
### Ordering Information

- ARK-3389-1M0A1E** ULV Celeron M 600 MHz Embedded Box Computer, with VGA/LVDS, Fast Ethernet, 1 x RS-232, 1 x RS-232/422/485
- ARK-3389-1S1A1E** LV Pentium M 1.1 GHz Embedded Box Computer, with VGA/LVDS, Fast Ethernet, 1 x RS-232, 1 x RS-232/422/485
- ARK-3389-1S4A1E** LV Pentium M 1.4 GHz, Embedded Box Computer, with VGA/LVDS, Fast Ethernet, 1 x RS-232, 1 x RS-232/422/485

### Optional Items

- 1757000222** AC-to-DC Adapter, DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 45° C for Home and Office Use
- 1700001947** Power cable 2P 180 cm, USA for ARK-338X
- 1700001948** Power cable 2P 180 cm, Europe for ARK-338X
- 1700001949** Power cable 2P 180 cm, UK for ARK-338X
- 2070000521** XPE SP1 OS Image and License for ARK-3380/1/2/9, English Version (440 MB)
- 2070000636** XPE SP2 OS Image and License for ARK-3380/1/2/9, English Version (600 MB)
- 2070000574** XPE SP1 OS Image and License for ARK-3380/1/2/9, Traditional Chinese Version(477 MB)
- 2070000637** XPE SP2 OS Image and License for ARK-3380/1/2/9, Japanese Version (600 MB)

### Dimensions





# ARK-3384

## Wireless, Fanless, Audio and Three USB Port Embedded Box Computer

NEW



### Features

- Fanless operation, built-in low power consumption Intel® Pentium® M or Celeron® M processor
- Built-in IEEE 802.11b/g wireless LAN with antenna
- Three built-in USB 2.0 ports
- Dual display supports LVDS and VGA/CRT
- AC97 stereo audio with dual output 6W amplifier
- Accepts wide range of ATX supported DC power input from 12 V ~ 24 V
- Anti-vibration to ensure maximum reliability
- Easy integration, easy maintenance, few parts

### Introduction

The ARK-3384 is a wireless fanless embedded box computer that combines IEEE802.11b/g wireless LAN, one 10/100Base-T Fast Ethernet, 3 USB 2.0 ports, 2 serial ports, digital LVDS & analog VGA/CRT display interfaces. ARK-3384 also comes with AC97 dual output 6W stereo audio as well as other industrial features all in a rugged, compact metal chassis for multimedia intensive and data communication based applications. The fanless operation provides noise protection to the platform when deployed in external environments. The ARK-3384 Embedded Box Computer is ideally suited for embedded PC applications. All electronics are conveniently protected in a compact sealed housing for embedded and stand alone applications, where space and environment are critical.

### Specifications

#### Processor Core Logic System

- **CPU** Intel Ultra Low Voltage or Low Voltage Pentium M/Celeron M Processors:  
ULV Celeron M 600 MHz (ARK-3384-1M0A1)  
LV Pentium M 1.1 GHz (ARK-3384-1S1A1)  
LV Pentium M 1.4 GHz (ARK-3384-1S4A1)
- **System Chipset** Intel 852GM GMCH or Intel 855GME chipset  
Intel ICH4 chipset  
400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** One 200-pin SO-DIMM socket  
Supports DDR SDRAM up to 1GB

#### Display

- **Chipset** Integrated graphics built-in Intel 852 GM GMCH or 855 GME GMCH, utilizing Intel Extreme Graphics2 technology
- **Display Memory** Dynamic video memory allocation up to 32 MB
- **Display Interface** CRT interface  
36-bit LVDS

#### Audio

- **Audio Interface** Audio controller ICH4 chipset  
AC97 3D surround stereo sound  
Dual output 6 W Amplifier

#### Ethernet

- **Ethernet Controller** Intel 82551ER 10/100BaseT Ethernet controller

#### Wireless

- **802.11b/g Wireless LAN** Built-in integrated MAC/baseband processor, supports IEEE 802.11b and 802.11g standard protocol and operates in the 2.4 GHz frequency bands  
Support data speeds up to 54 Mbps  
Built-in system antenna support

#### Serial

- **USB Interface** Integrated USB 2.0 controller  
Supports three USB 2.0 ports
- **COM Interface** Supports one RS-232 port, and one RS-232/422/485 port

#### Other

- **Watch Dog Timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** Supports PS/2 mouse and PS/2 keyboard

#### Storage

- Supports drive bay space for 2.5" HDD
- Supports CompactFlash socket for Type I/II CompactFlash disk

#### Software Options

- Windows XP embedded, Windows 2000/XP

#### Mechanical

- **Construction** Aluminum housing
- **Mounting** Desk/wall-mounting  
Din-Rail mounting Kit
- **Dimensions (W x H x D)** 264.5 mm x 69.2 mm x 137.25 mm (10.41" x 2.72" x 5.4")
- **Weight** 2 Kg

## Power Supply

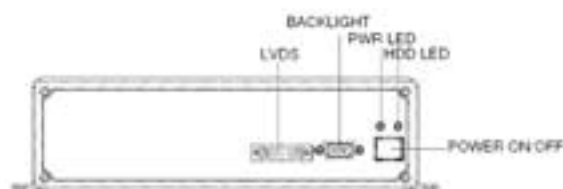
- Output Rating 46 W
- Fuse Rating 7 A @ 125 V
- Input Voltage DC: 12V ~ DC 24V,  
Typical: 12 VDC @ 4.5 A, 16 VDC @ 3.4 A,  
19 VDC @ 2.9 A, 24 VDC @ 2.3 A

## Environmental

- Operation Temperature** When system is equipped with industrial grade CompactFlash: -20 °C ~ 60 °C  
When system is equipped with HDD: 0 °C ~ 45 °C
- Vibration Loading** When system is equipped with industrial grade Compact Flash disk: 5 Grms, 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.  
When system is equipped with 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
- Shock During Operation** When system is equipped with CompactFlash disk: 50 G, IEC 60068-2-27, half sine, 11ms duration  
When system is equipped with hard disk: 20 G, IEC 60068-2-27, half sine, 11 ms duration

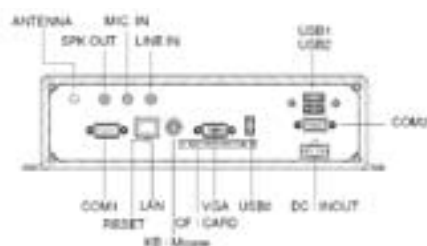
## External I/O Connectors

Front Panel External I/O Mechanical Layout/Drawing



- 1 x LVDS Port by D-Sub Connector
- 1 x Backlight On/Off Control Connector
- 1 x Power On/Off Button

Rear Panel External I/O Layout/Drawing



- 1 x Antenna for IEEE 802.11b/g Wireless LAN
- 1 x Line-out Port
- 1 x Mic-in Port
- 1 x Line-in Port
- 1 x Series Port: Supports RS-232 Interface as COM1
- 1 x RJ45 Port: Support 10/100Base-T Ethernet Connection
- 1 x Reset Button
- 1 x PS/2 KB/Mouse Connector

- 1 x VGA/CRT Connector
- 1 x Disk Drive Bay for Accessing CompactFlash Disk
- 3 x USB 2.0 Connector
- 1 x Phoenix Type of Power Input Connector
- 1 x Serial Port Supports RS-232/422/485 Interface as COM2

(Note: The default setting of COM2 is RS-232. The RS-422/485 mode of COM2 can be supported via replacing the internal cable and adjusting the jumper inside)

## Packing List

- 1 x ARK-3384 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD
- 1 x Flat Cable Supports RS-485/RS-422 Mode for COM2 Serial Port (P/N: 1700001967)
- 1 x 2-P Phoenix to DC-Jack Power Cable (P/N: 1700001394)

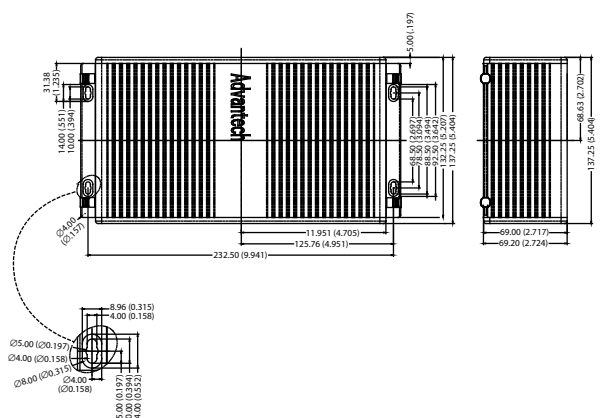
## Ordering Information

- ARK-3384-1M0A1E** ULV Celeron M 600 MHz Embedded Box Computer, with one LVDS, three USB 2.0, two COM, AC97, one Fast Ethernet, one 802.11b/g Wireless LAN
- ARK-3384-1S1A1E** LV Pentium M 1.1 GHz Embedded Box Computer, with one LVDS, three USB 2.0, two COM, AC97, one Fast Ethernet, one 802.11b/g Wireless LAN
- ARK-3384-1S4A1E** ULV Pentium M 1.4 GHz Embedded Box Computer, with LVDS, three USB 2.0, two COM, AC97, one Fast Ethernet, one 802.11b/g Wireless LAN

## Optional Items

- 1757000222** AC-to-DC Adapter DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 45 °C for Home and Office Use
- 1700001947** Power cable 2-pin 180 cm, USA for ARK-338X
- 1700001948** Power cable 2-pin 180 cm, Europe for ARK-338X
- 1700001949** Power cable 2-pin 180 cm, UK for ARK-338X

## Dimensions



Unit: mm (inch)

## Benefits

### Wireless Enabled, IEEE 802.11 b/g Compliant

The built-in IEEE 802.11b/g compliant wireless LAN interface, and IEEE 802.3u compliant 10/100Base-T CSMA/CD Fast Ethernet, plus low power consumption Pentium® M/ Celeron® M processor make the ARK-3384 an ideal communication gateway that allows users to perform all possibility of remote and local processing for many diversified embedded applications such as:

- M2M communication of remote measurement system, control facilities, service & supervising control systems. ....etc.
- Telemetry of data transmission from a sensor to a central unit

### Dual Display, Dual Output 6W Stereo AC97 Audio

ARK-3384 built in analog VGA/CRT and digital LVDS interface supports dual independent display capability, as well as dual output 6W AC97 Stereo audio designed for diverse embedded multimedia applications such as:

- Building Automation
  - Wireless Embedded Server
  - Elevator Infotainment Platform
- Wireless Kiosk/POS/POI/Gaming system platform

### Highly Scalable Performance with Low Power Consumption

- Scalable Low Voltage and Ultra Low Voltage Pentium M class processor system to bring high computing performance with low power consumption
- Fanless operation with low power consumption in aluminum sealed construction.
- ATX, Accepts Wide Range of ATX supported DC Power Input
  - The ARK-3384 allows a wide range of power inputs from DC 12 V ~ 24 V, it also supports ATX; that offers system integrators the flexibility

### Highly Compact, Robust Casting Construction with Optimized Integration

- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions.
- With its maximum mounting height of 69 mm, the ARK-3380 can be used under space critical installation conditions.
- Few parts, easy integration, easy maintenance to reduce investment.
- Systems are supplied "Ready-to-Run".
- Long life cycle support for product continuity.

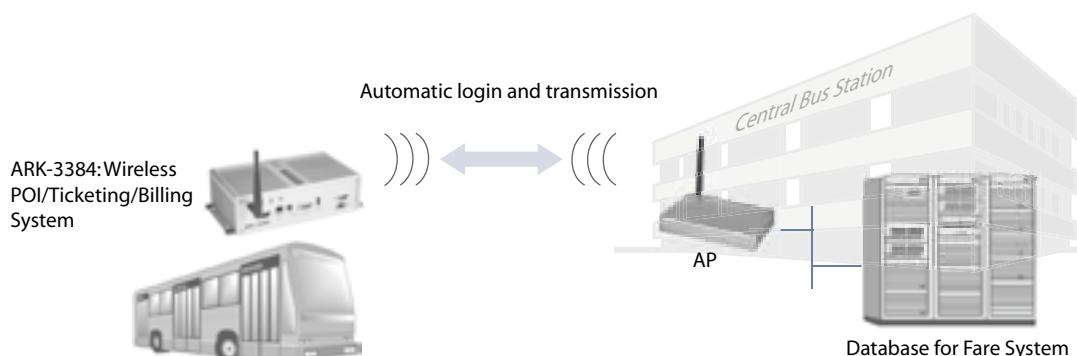
## Applications

ARK-3384 also comes with AC97 dual output 6W stereo audio as well as other industrial features all in a rugged compact metal chassis for multimedia intensive and data communication based applications.

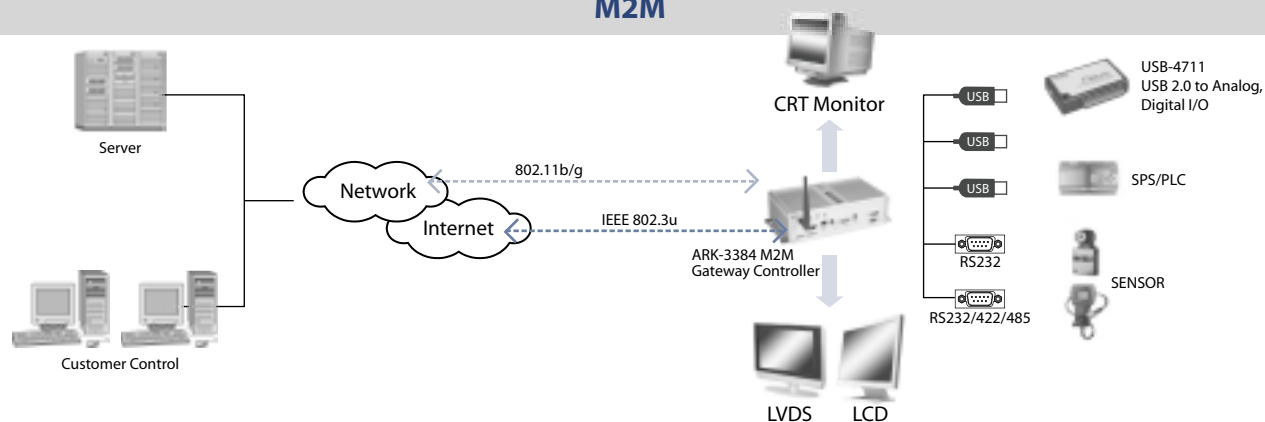
- Wireless POI/Ticketing/Billing System
- M2M

## Application Examples

### Wireless POI/Ticketing/Billing System



### M2M





# ARK-3383

## Seven USB 2.0, Four Serial and Dual LAN Fanless Embedded Box Computer

**NEW**



### Features

- Seven built-in USB 2.0 ports and four serial ports, enable comprehensive communication and connectivity capacity
- Built-in Ultra Low Voltage or Low Voltage Intel® Celeron®/Intel® Pentium® M processor
- Sealed construction with fanless operation, low power consumption
- Accepts wide range of DC power input from DC 12 V ~ 24 V, ATX supported
- Anti-vibration to ensure maximum reliability
- Easy integration, easy maintenance, few parts

### Introduction

The ARK-3383 fanless Embedded Box Computer combines seven USB 2.0 ports, four 4 serial ports and dual fast Ethernet as well as other industrial features into a rugged, compact Aluminum chassis for intensive control and communication based applications. The fanless operation provides noise protection for the platform to be deployed in external environments. The ARK-3383 Embedded Box Computer is ideally suited for diversified embedded applications, all electronics are protected in a compact sealed housing for embedded and standalone applications, where space and environmental conditions are critical:

### Specifications

#### Processor Core Logic System

- **CPU** Intel Ultra Low Voltage or Low Voltage Pentium M or Celeron M Processors:  
ULV Celeron M 600 MHz (ARK-3383-1M0A1)  
LV Pentium M 1.1 GHz (ARK-3383-1S1A1)  
LV Pentium M 1.4 GHz (ARK-3383-1S4A1)
- **System Chipset** Intel 852GM GMCH or Intel 855GME chipset  
Intel ICH4 chipset, 400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** One 200-pin SO-DIMM socket

#### Display

- **Chipset** Integrated graphics built-in Intel 852GM or 855GME GMCH, utilizing Intel Extreme Graphics2 technology
- **Display Memory** Dynamic video memory allocation up to 32 MB
- **Display Interface** CRT Interface  
36-bit LVDS interface, optional support up to 48-bit

#### Ethernet

- **Ethernet Controller** Two Intel 82551ER 10/100BaseT Ethernet controllers

#### USB

- **USB Controller** Integrated USB 2.0 controller on built-in Intel ICH4 chipset supports USB1~USB3  
One NEC uD720101 PCI USB 2.0 controller supports USB4~USB7

#### Serial Port

- **Serial Interface** Built-in Winbond 83627HF Super I/O controller  
COM1~COM2  
Built-in SMSC SCH3114 LPC Serial Ports Controller  
Supports COM3~COM4

#### Other

- **Watchdog Timer** 255 level timer interval, setup by software
- **Keyboard/Mouse** Supports PS/2 Mouse and PS/2 Keyboard

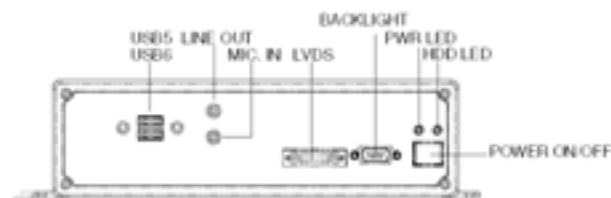
#### Storage

- **Supports Single Drive Bay Space For 2.5" HDD**
- **Supports CompactFlash Socket For Type I/II CompactFlash Disk**

#### Front Panel External I/O

- **1 x LVDS Port by D-Sub Connector**
- **1 x Backlight On/Off Control Connector**
- **1 x Power On/Off Button**
- **2 x USB 2.0 Connectors**

#### Front Panel External I/O Mechanical Layout/Drawing



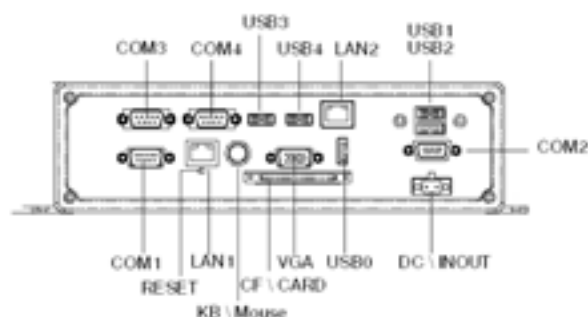
## Rear Panel External I/O

- One Full Functional RS-232 Serial Ports as COM1
- Three Serial Ports Support RS-232/422/485 Interfaces as COM 2, COM3 and COM4

Note: The default setting of COM2 is RS-232. The RS-422/485 mode of COM2 can be support via replacing the internal cable and adjust the jumper inside of system

- 2 x RJ45 Ports: Supports Dual Fast Ethernet Connection
- 5 x USB 2.0 Connectors
- 1 x PS/2 Connector
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x Phoenix Type Power Input Connector

## Real Panel External I/O Mechanical Layout/Drawing



## Mechanical

- Construction** Aluminum housing
- Mounting** Din-Rail mounting | Desk/wall-mounting
- Dimensions (W x H x D)** 264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
- Weight** 2 KG

## Power Supply

- Output Rating** 46 W
- Fuse Rating** 7 A @ 125 V
- Input Voltage** 12 VDC ~ DC 24 VDC, Typical 12 VDC @ 4.5 A, 16 VDC @ 3.4 A, 19 VDC @ 2.9 A, 24 VDC @ 2.3 A

## Environment Specifications

- Operating Temperature** When system is equipped with Industrial Grade of Compact Flash Disk only is -20 °C ~ 60 °C  
When system is equipped with HDD is 0 °C ~ 45 °C
- Relative Humidity** 95% @ 40 °C (non-condensing)
- Vibration Loading** When system is equipped with Compact Flash Disk only: 5Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10Oct/min, 1hr/axis  
When system is equipped with 2.5-inch hard disk: 1Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10Oct/min, 1hr/axis
- Shock During Operation** When system is equipped with CompactFlash Disk only: 50G, IEC 60068-2-27, half-sine, 11ms duration  
When system is equipped with hard disk: 20 G, IEC 60068-2-27, half-sine, 11 ms duration

## Shock

When system is equipped with CompactFlash disk only: 50G, IEC 60068-2-27, half sine, 11ms duration

When system is equipped with hard disk: 20 G, IEC 60068-2-27, half sine, 11 ms duration

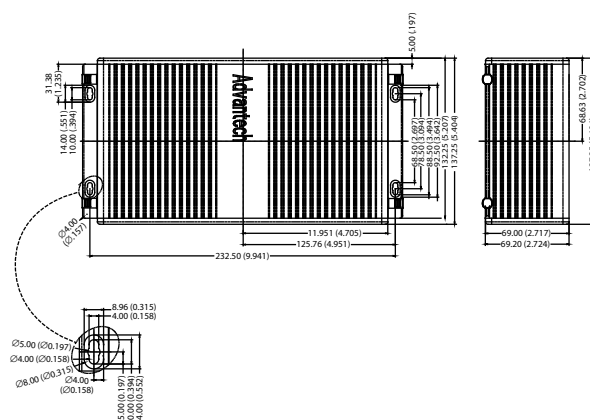
- EMC Approved
- Safety Approved

CE, FCC  
UL

## Ordering Information

- ARK-3383-1M0A1** ULV Celeron M 600 MHz Embedded Box Computer, with 1 x VGA, 1 x LVDS, 2 x LAN, 4 x COM, and 7 x USB 2.0
- ARK-3383-1S1A1** LV Pentium M 1.1GHz Embedded Box Computer, with 1 x VGA, 1 x LVDS, 2 x LAN, 4 x COM, and 7 x USB 2.0
- ARK-3383-1S4A1** LV Pentium M 1.4GHz Embedded Box Computer, with 1 x VGA, 1 x LVDS, 2 x LAN, 4 x COM, and 7 x USB 2.0

## Dimensions



Unit: mm (inch)

## Benefits

### Seven USB Ports and Four Serial Ports with Dual Fast Ethernet

ARK-3383 enables you to access USB peripherals such as storage subsystems, security ID devices, card readers, bar code scanners, multifunction printers and scanners individually dedicated or shared among users and configured via the network to maximize your USB device investment.

In addition to seven USB 2.0 ports, ARK-3383 is also equipped with dual fast Ethernet and four serial ports that make ARK-3383 an ideal solution to communicate with many field level devices and perform control operations for automation applications, such as embedded device servers for storage, image printing, medical applications and security & access control for POI/POS/Kiosks.

### Highly Scalable Performance with low power consumption

- Scalable Low Voltage and Ultra Low Voltage of Pentium® M class processor system to bring high computing performance with low power consumption

### Highly Robust Casting Construction

- Fanless operation in an Aluminum sealed construction
- A special cushioned design that absorbs vibration ensures maximum reliability under harsh conditions

### Highly Compact Size

- With its maximum mounting height of 69mm, the ARK-3383 can be used under space critical installation conditions

## Optimized Integration

- Few parts, easy integration, and easy maintenance to reduce investment
- Systems are supplied ready to run
- Long life cycle support for product continuity

## Wide Range of DC Power Input, ATX Supported

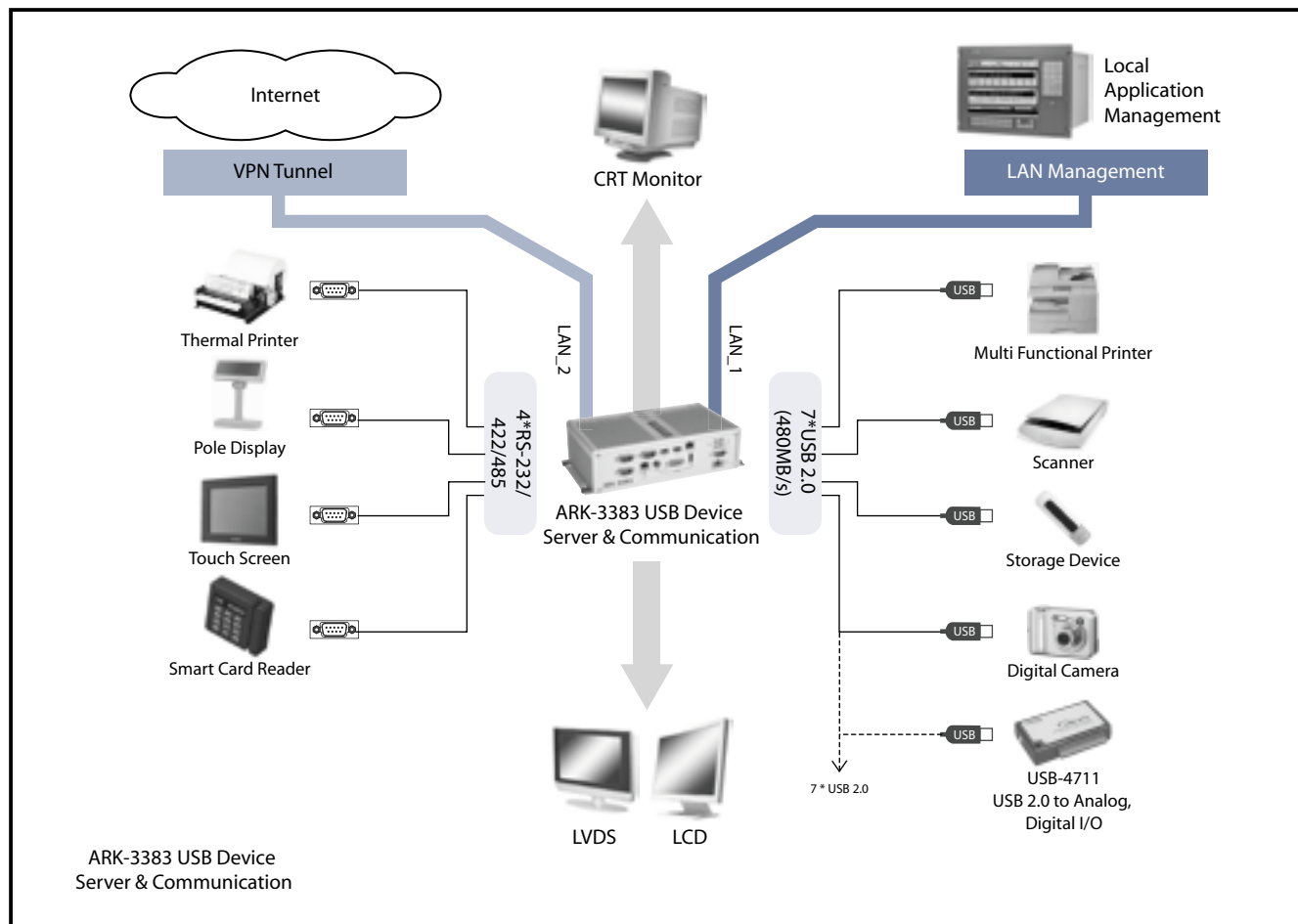
- The ARK-3383 allows for a wide range power input of DC 12 V ~ 24 V, and it also supports ATX which offers system integrators the flexibility and excellent power management for various embedded application environments.

## Applications

ARK-3383 is an ideal solution to communicate with many field level devices and perform control operations for automation applications.

- Embedded Device Servers for Storage
- Image Printing
- Medical Applications
- Security
- POI/POS/KIOSK

## Application Examples





# ARK-3382

## Four LAN, Fanless, Embedded Box Computer



### Features

- Four 10/100 Base-T Fast Ethernet ports, with LAN bypass support on LAN 2 and LAN 3
- Built-in Intel® Ultra Low Voltage Celeron® or Intel Pentium® M Low Voltage processor
- Sealed fanless construction
- Anti-Vibration to ensure maximum reliability
- Easy Integration, easy maintenance, few parts
- Wide range of power source

### Introduction

The ARK-3382 fanless Embedded Box Computer combines four LAN port interfaces and other industrial features into a rugged, compact metal chassis for Gigabit network intensive based applications. The fanless operation provides noise protection when deployed in external environments. The ARK-3382 fanless Embedded Box Controller is ideally suited for embedded PC applications. All electronics are protected in a compact sealed housing for convenient deployment where space and environment are critical.

### Specifications

#### Processor Core Logic System

- **CPU**  
Intel Ultra low voltage Celeron or Intel Pentium M low voltage processor  
ULV Celeron M 600 MHz (ARK-3382-1M0A1)  
LV Pentium M 1.1 GHz (ARK-3382-1S1A1)  
LV Pentium M 1.4 GHz (ARK-3382-1S4A1)
- **System Chipset**  
Intel 852GM GMCH or Intel 855GME chipset  
Intel ICH4 chipset  
400 MHz FSB
- **BIOS**  
4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory**  
1 x 200-pin SO-DIMM sockets  
1 x 200-pin DDR S-DIMM, Max. 1 G

#### Display

- **Chipset**  
Integrated graphics with built-in Intel 852GM GMCH, or Intel 855GME GMCH, utilizing Intel Graphics 2 technology
- **Display Memory**  
Dynamic video memory allocation up to 32 MB
- **Display Interface**  
CRT Interface  
36-bit LVDS interface

#### Ethernet

- **Ethernet Controller**  
1 x Intel 82551ER 10/100Base-Tx Fast Ethernet controller as LAN1  
3 x Realtek® RTL8139DL 10/100Base-Tx Ethernet controller as LAN2, LAN 3 and LAN4  
LAN Bypass support on LAN 2 and 3

#### Other

- **Watchdog Timer**  
255 levels timer interval, setup by software
- **Keyboard/Mouse**  
Supports PS/2 mouse and PS/2 keyboard
- **USB**  
USB 2.0 compliant

#### Software Options

Windows XP Embedded, Windows 2000/XP

#### Storage

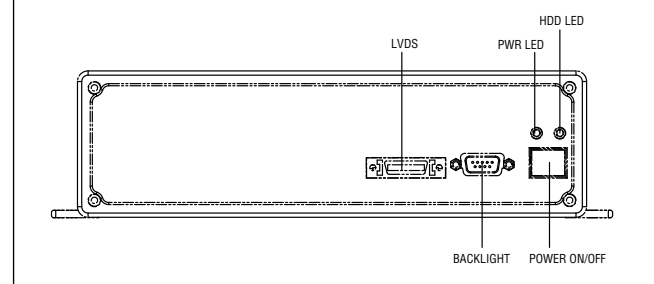
Supports drive bay space for 2.5" HDD

Supports CompactFlash socket for type I/II CompactFlash disk

#### Front Panel External I/O

- 1 x LVDS Port by D-Sub Connector
- 1 x Backlight On/Off Control Connector
- 1 x Power On/Off Button

#### Front Panel External I/O Mechanical Layout/Drawing



#### Mechanical

- **Construction**  
Aluminum housing
- **Mounting**  
Din-Rail mounting  
Desk/wall-mounting
- **Dimensions (W x H x D)**  
264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
- **Weight**  
2 kg

## Power Supply

- Output Rating 46 W
- Input Voltage 12 VDC ~ 24 VDC, Typical 12 VDC @ 4.5 A,  
16 VDC @ 3.4 A, 19 VDC @ 2.9 A, 24 VDC @ 2.3 A

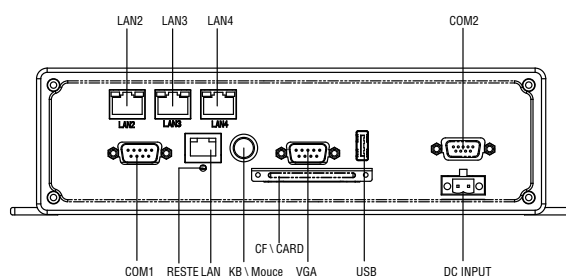
## Environment Specifications

- Operating Temperature** When system is equipped with Industrial Grade CompactFlash disk only -20 ~ 60° C  
When system is equipped with 2.5-inch hard disk 0 ~ 45° C
- Relative Humidity** 95 % @ 40 °C (non-condensing)
- Vibration Loading During Operation**  
When system is equipped with CompactFlash disk only: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.  
When system is equipped with 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
- Shock During Operation** When system is equipped with CompactFlash disk only : 50 G, IEC 60068-2-27, half sine, 11 ms duration  
When system is equipped with hard disk : 20 G, IEC 60068-2-27, half sine, 11 ms duration
- EMC Approved** CE, FCC
- Safety Approved** UL

## Rear Panel External I/O

- 1 x RS-232 Series Port as COM1
- 1 x Serial Port Supports RS-232/422/485 Interface as COM2 (Note: The default setting of COM2 is RS-232. The RS-422/485 mode of COM2 can be supported via replacing the internal cable and adjusting the jumper inside of system)
- 4 x RJ45 Ports: Supports Four Fast Ethernet Connectors
- 1 x PS/2 Connector
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x USB 2.0 Connector
- 1 x Phoenix Type Power Input Connector

Rear Panel External I/O Layout/Drawing



## Packing list

- 1 x ARK-3382 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD
- 1 x Flat Cable Supports RS-485/RS-422 Mode for COM2 Serial Port (P/N: 1700001967)
- 1 x 2-P Phoenix to DC-Jack power cable (P/N: 1700001394)

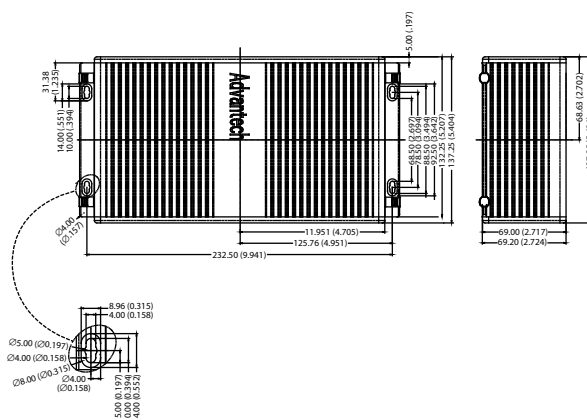
## Ordering Information

- ARK-3382-1M0A1E** ULV Celeron M 600 MHz Embedded Box Computer, with VGA/LVDS, Four 10/100Baset Fast Ethernet
- ARK-3382-1S1A1E** LV Pentium M 1.1 GHz Embedded Box Computer, with VGA/LVDS, Four 10/100Baset Fast Ethernet
- ARK-3382-1S4A1E** LV Pentium M 1.4 GHz, Embedded Box Computer, with VGA/LVDS, Four 10/100Baset Fast Ethernet

## Optional Items

- 1757000222** AC-to-DC Adapter DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 45° C for Home and Office Use
- 1700001947** Power cable 2-pin 180 cm, USA for ARK-338X
- 1700001948** Power cable 2-pin 180 cm, Europe for ARK-338X
- 1700001949** Power cable 2-pin 180 cm, UK for ARK-338X
- 2070000521** XPE SP1 OS Image and License for ARK-3380/1/2/9, English Version (440 MB)
- 2070000636** XPE SP2 OS Image and License for ARK-3380/1/2/9, English Version (600 MB)
- 2070000574** XPE SP1 OS Image and License for ARK-3380/1/2/9, Traditional Chinese Version (477 MB)
- 2070000637** XPE SP2 OS Image and License for ARK-3380/1/2/9, Japanese Version (600 MB)

## Dimensions



Unit: mm (inch)

## Benefits

### Multiple LAN Port Capacity

The multiple LAN port interfaces consists of four Fast Ethernet networking ports, in addition to the LAN bypass function to prevent network problems when the platform shuts down, designed for security gateway applications.

### Highly Robust Casting Construction

- Fanless operation in aluminum sealed construction
- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions

### Highly Compact Size

- With its maximum mounting height of 69 mm, the ARK-3382 can be used under space critical installation conditions

### Optimized Integration

- Few parts, easy integration, easy maintenance to reduce investment
- Systems are supplied "Ready-to-Run"
- Long life cycle support for product continuity

### Wide Range of Power Sources

- Wide range of DC 12 V ~ 24 V power source offers flexibility of power input for various automation environments.

### High Computing Performance

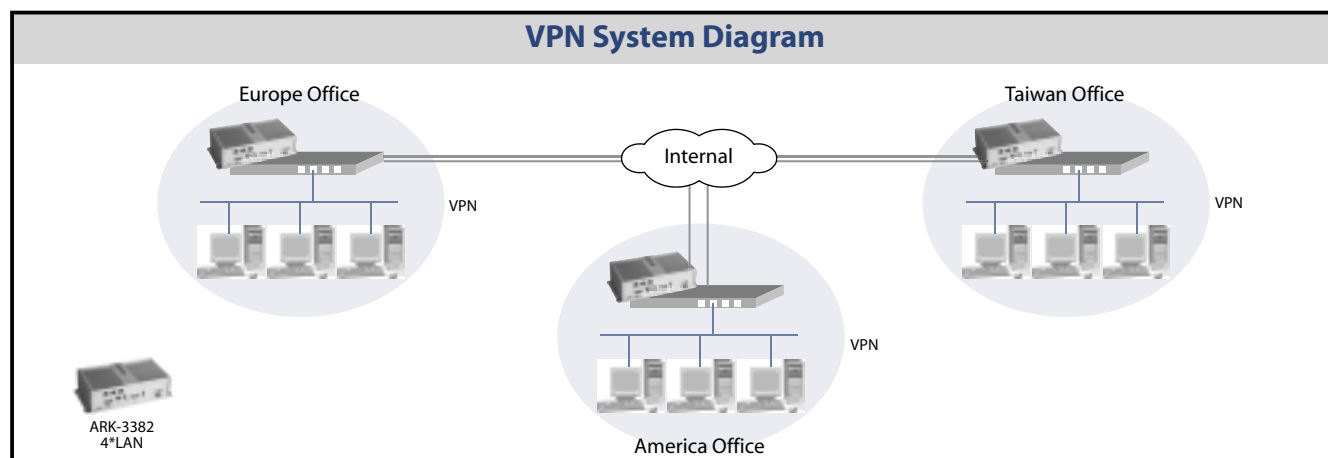
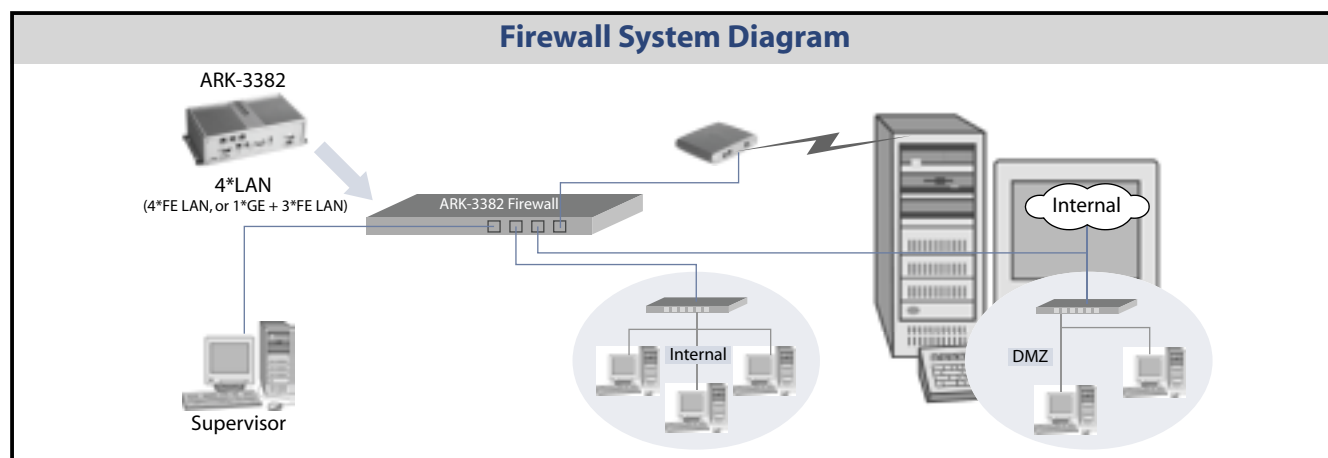
Scalable Low Voltage and Ultra Low Voltage Pentium M class processor systems with Ethernet networking capability which gives high computing performance

## Applications

ARK-3382 supports intensive networking capability by offering 4 x 10/100 Base-T Ethernet plus LAN bypass function support. This makes the ARK-3382 ideal for industrial and security gateway applications which require intensive LAN communication.

- Firewall
- VPN

## Application Examples





# ARK-3381

## Seven Serial Port, Fanless, Embedded Box Computer



### Features

- Seven serial port interfaces, 5 x RS-232/422/485 and 2 x RS-232
- Dual independent display capability
- Built-in Intel® Ultra Low Voltage Celeron® or Low Voltage Intel Pentium® M processor
- Sealed construction with fanless operation
- Anti-vibration to ensure maximum reliability
- Easy integration, easy maintenance, few parts, with wide range of power source

### Introduction

The ARK-3381 fanless Embedded Box Computer combines seven serial port interfaces and other industrial features into a rugged, compact metal chassis for intensive communication based applications. The fanless operation provides noise protection for the platform to be deployed in external environments. The ARK-3381 Embedded Box Computer is ideally suited for embedded PC applications. All electronics are protected in a compact sealed housing for embedded and stand-alone applications, where space and environment are critical.

### Specifications

#### Processor Core Logic System

- **CPU** Intel Ultra low voltage Celeron or Intel Pentium M low voltage processor  
Celeron M 600 MHz (ARK-3381-1M0A1)  
Pentium M 1.1 GHz (ARK-3381-1S1A1)  
Pentium M 1.4 GHz (ARK-3381-1S4A1)
- **System Chipset** Intel 852GM GMCH or Intel 855GME chipset  
Intel ICH4 chipset  
400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** One 200-pin SO-DIMM sockets  
DDR 200-pin SO-DIMM x 1, Max. 1G

#### Display

- **Chipset** Integrated graphics with built-in Intel 852GM GMCH, or Intel 855GME GMCH, utilizing Intel extreme Graphics 2 technology
- **Display Memory** Dynamic video memory allocation up to 32 MB
- **Display Interface** CRT Interface  
36-bit LVDS interface

#### Ethernet

- **Ethernet Controller** Intel 82551ER 10/100BaseT Ethernet Controller

#### Other

- **Watchdog Timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** Supports PS/2 mouse and PS/2 keyboard
- **USB** USB 2.0 compliant

#### Software Options

- Windows® XP Embedded, Windows 2000/XP

#### Storage

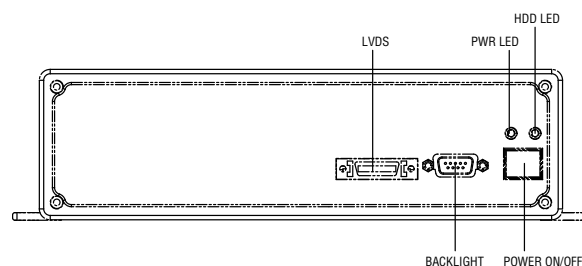
Supports drive bay space for 2.5" HDD

Supports CompactFlash socket for type I/II CompactFlash disk

#### Front Panel External I/O

- 1 x LVDS Port by D-Sub Connector
- 1 x Backlight On/Off Control Connector
- 1 x Power On/Off Button

#### Front Panel External I/O Mechanical Layout/Drawing



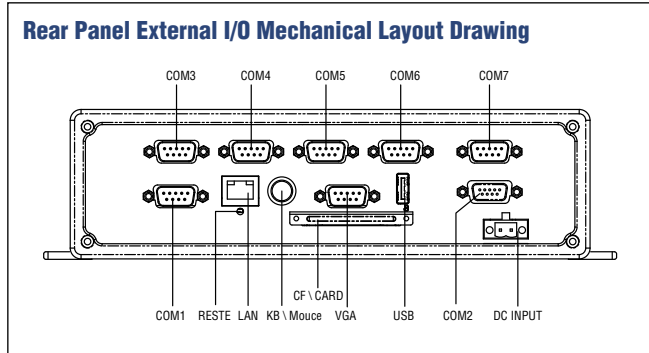
#### Mechanical

- **Construction** Aluminum housing
- **Mounting** Din-Rail mounting  
Desk/wall-mounting
- **Dimensions (W x H x D)** 264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
- **Weight** 2 kg

#### Power Supply

- **Output Rating** 46 W
- **Fuse Rating** 7 A @ 125 V
- **Input Voltage** 12 VDC ~ 24 VDC, Typical 12 VDC @ 4.5 A,  
16 VDC @ 3.4 A, 19 VDC @ 2.9 A, 24 VDC @ 2.3 A

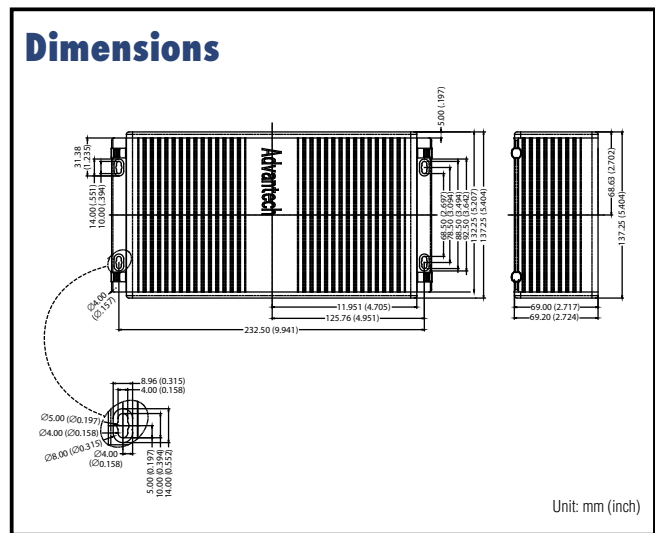
### Rear Panel External I/O Mechanical Layout Drawing



## Packing list

## Optional Items

## Dimensions



Unit: mm (inch)

## Benefits

### Series Port Intensive with Networking Capability

Multiple serial port interface: 5 x RS-232/422/485 series port and 2 x RS-232 series port enable communication with field level for measurement and operator control of diversified automation control.

### Highly Robust Casting Construction

- Fanless operation in aluminum sealed construction
- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions

### Highly Compact Size

- With its maximum mounting height of 69 mm, the ARK-3381 can be used under space critical installation conditions

### Optimized Integration

- Few parts, easy integration and easy maintenance guarantee cost-effective investment
- Systems are supplied "Ready-to-Run"
- Long life cycle support for product continuity

### Wide Range of Power Source

- Wide range of DC 12 V ~ 24 V power source offers flexibility of power input for various automation environments

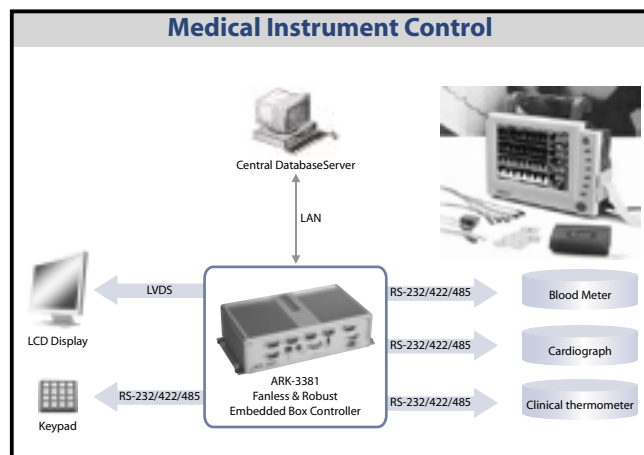
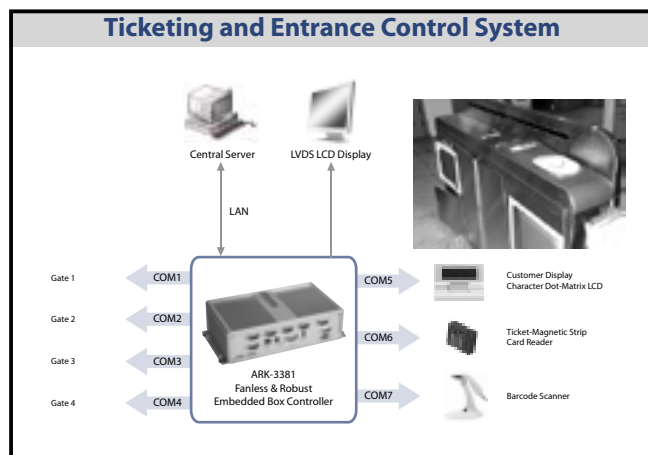
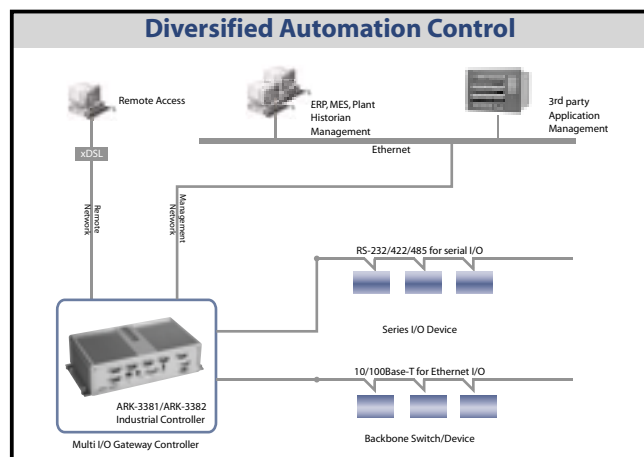
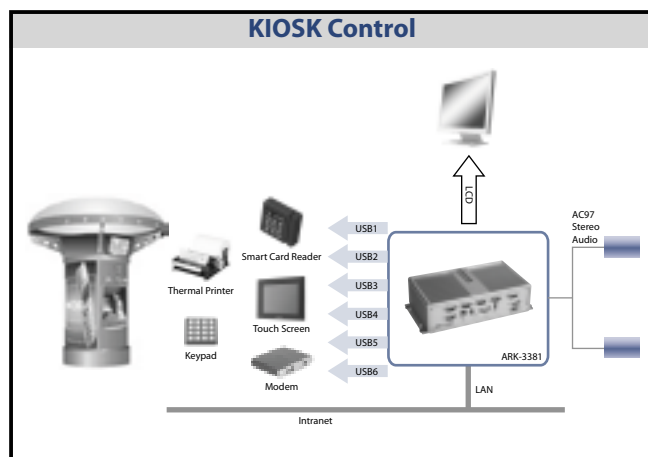
### High Computing Performance

Scalable Low Voltage and Ultra Low Voltage Pentium M class processor system with Ethernet networking capability for high computing performance

## Applications

- The ARK-3381 supports applications for environment and facilities monitoring, kiosks, tolling and ticketing, and entrance controls as well as medical devices with multiple device connectivity.
- KIOSK
- Environmental Monitoring System (EMS)
- Facility Management System (FMS)
- Medical Instrument Control

## Application Examples



# ARK-3380

## Multiple Video Interface, Fanless, Embedded Box Computer



### Features

- DVI, LVDS, and TV-out display Interface with dual display capability
- Built-in Intel® Ultra Low Voltage Celeron® or Low Voltage Intel Pentium® M processor
- Sealed construction with fanless operation
- Anti-vibration to ensure maximum reliability
- Easy integration, easy maintenance, few parts, with wide range of power source
- Embedded software support

### Introduction

The ARK-3380 Fanless Embedded Box Computer combines a rich display interface and other industrial features into a rugged, compact metal chassis for multimedia intensive applications. The fanless operation provides noise protection to the platform when deployed in external environments. The ARK-3380 Embedded Box Computer is ideally suited for embedded PC applications. All electronics are protected in a compact sealed housing for convenient embedded and stand alone applications, where space and environment considerations are critical.

### Specifications

#### Processor Core Logic System

- **CPU** Intel Ultra Low Voltage Celeron or Intel Pentium M Low Voltage Processor  
ULV Celeron M 600 MHz (ARK-3380-1M0A1)  
LV Pentium M 1.1 GHz (ARK-3380-1S1A1)  
LV Pentium M 1.4 GHz (ARK-3380-1S4A1)
- **System Chipset** Intel 852GM GMCH or Intel 855GME Chipset  
Intel ICH4 Chipset  
400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** 1 x 200-pin SO-DIMM sockets  
1 x DDR 200-pin SO-DIMM, Max. 1 G

#### Display

- **Chipset** Integrated graphics built-in Intel 852GM GMCH, or Intel 855GME GMCH, utilizing Intel® Extreme Graphics 2 technology
- **Display Memory** Dynamic video memory allocation up to 32 MB
- **Display Interface** CRT Interface  
36-bit LVDS interface  
DVI interface, compliant with DVI specification 1.0

#### Ethernet

- **Ethernet Controller** Intel 82551ER 10/100BaseT Ethernet Controller

#### Audio

- **Audio Interface** Audio controller on the ICH4 chip  
AC97 3D surround stereo sound, Dual 6 W Amplifier

#### Other

- **Watchdog Timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** Supports PS/2 Mouse and PS/2 Keyboard
- **USB** USB 2.0 compliant

#### Software Options

- Windows XP Embedded, Windows 2000/XP

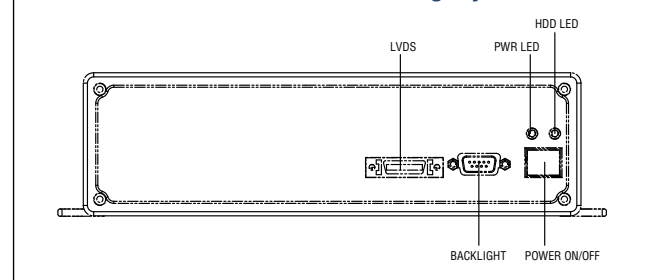
#### Storage

Supports a drive bay space for 2.5" HDD  
Supports a CompactFlash socket for Type I/II CompactFlash disk

#### Front Panel External I/O

- 1 x LVDS Port by D-Sub Connector
- 1 x Backlight On/Off Control Connector
- 1 x Power On/Off Button

#### Front Metal Panel I/O Mechanical Drawing/Layout



#### Mechanical

- **Construction** Aluminum housing
- **Mounting** Din-Rail mounting  
Desk/wall-mounting
- **Dimensions (W x H x D)** 264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
- **Weight** 2 kg



## Power Supply

- Output Rating 46 W
- Fuse Rating 7 A @ 125 V
- Input Voltage 12 VDC ~ 24 VDC, Typical 12 VDC @ 4.5 A,  
16 VDC @ 3.4 A, 19 VDC @ 2.9 A, 24 VDC @ 2.3 A

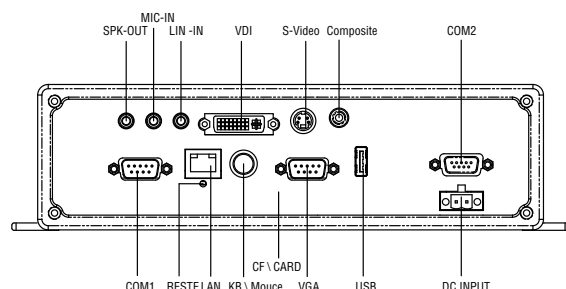
## Environment Specifications

- Operating Temperature** When system is equipped with Industrial Grade CompactFlash disk only -20 ~ 60° C  
When system is equipped with 2.5-inch hard disk 0 ~ 45° C
- Relative Humidity** 95 % @ 40° C (non-condensing)
- Vibration Loading During Operation**  
When system is equipped with CompactFlash disk only:  
5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz,  
1 Oct./min, 1 hr/axis.  
When system is equipped with 2.5-inch hard disk:  
1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz,  
1 Oct./min, 1 hr/axis.
- Shock During Operation** When system is equipped with CompactFlash disk only: 50 G, IEC 60068-2-27, half sine, 11 ms duration  
When system is equipped with hard disk : 20 G, IEC 60068-2-27, half sine, 11 ms duration
- EMC Approved** CE, FCC
- Safety Approved** UL

## Rear Panel External I/O

- 1 x Series Port: Supports RS-232 Interface as COM1
- 1 x Serial Port Supports RS-232/422/485 interface as COM2 (Note: The default setting of COM2 is RS-232. The RS-422/485 mode of COM2 can be supported via replacing the internal cable and adjusting the jumper inside of system)
- 1 x RJ45 Port: Support 10/100Base-T Ethernet Connection
- 1 x PS/2 Connector
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x USB 2.0 Connector
- 1 x Phoenix Type of Power Input Connector
- 1 x Line-out Port
- 1 x Mic-in Port

## Rear Metal Panel I/O Mechanical Drawing/Layout



- 1 x Line-in Port
- 1 x DVI Port
- 1 x S-Video Output Connector
- 1 x Composite Video Output Connector

## Packing list

- 1 x ARK-3380 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD
- 1 x Flat Cable Supports RS-485/RS-422 Mode for COM2 Serial Port (P/N: 1700001967)
- 1 x 2-P Phoenix to DC-Jack power cable (P/N: 1700001394)

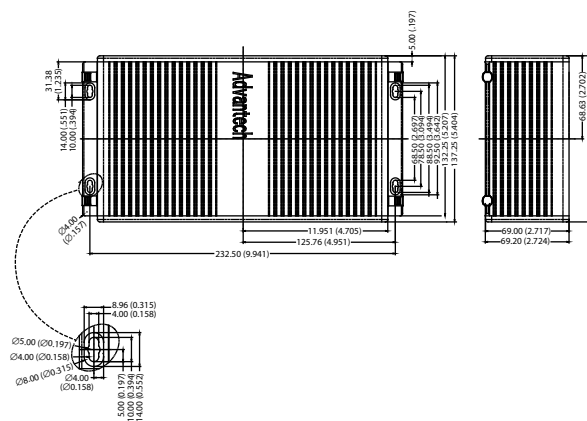
## Ordering Information

- ARK-3380-1M0A1E** ULV Celeron M 600 MHz Embedded Box Computer, with DVI, LVDS, Audio, Fast Ethernet, S-Video, C-Video, 1 x RS-232, 1 x RS-232/422/485
- ARK-3380-1S1A1E** LV Pentium M 1.1 GHz Embedded Box Computer, with DVI, LVDS, Audio, Fast Ethernet, S-Video, C-Video, 1 x RS-232, 1 x RS-232/422/485
- ARK-3380-1S4A1E** LV Pentium M 1.4 GHz, Embedded Box Computer, with DVI, LVDS, Audio, fast Ethernet, S-Video, C-Video, 1 x RS-232, 1 x RS-232/422/485

## Optional Items

- 1757000222** AC-to-DC Adapter DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 45° C for Home and Office Use
- 1700001947** Power cable 2P 180 cm, USA for ARK-338X
- 1700001948** Power cable 2P 180 cm, Europe for ARK-338X
- 1700001949** Power cable 2P 180 cm, UK for ARK-338X
- 2070000521** XPE SP1 OS Image and License for ARK-3380/1/2/9, English Version (440 MB)
- 2070000636** XPE SP2 OS Image and License for ARK-3380/1/2/9, English Version (600 MB)
- 2070000574** XPE SP1 OS Image and License for ARK-3380/1/2/9, Traditional Chinese Version(477 MB)
- 2070000637** XPE SP2 OS Image and License for ARK-3380/1/2/9, Japanese Version (600 MB)

## Dimensions



Unit: mm (inch)

## Benefits

### Dual Display, Video Intensive capacity

Rich display interface of DVI, LVDS and TV-out; as well as AC97 Stereo audio designed for diverse applications:

- Point of information
- Gaming
- Digital display broadcasting system

### Highly Robust Casting Construction

- Fanless operation in aluminum sealed construction
- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions

### Highly Compact Size

- With its maximum mounting height of 69 mm, the ARK-3380 can be used under space critical installation conditions

### Highly Scalable Performance with Low Power Consumption

- Scalable Low Voltage and Ultra Low Voltage Pentium M class processor system to bring high computing performance with low power consumption

### Optimized Integration

- Few parts, easy integration, easy maintenance to reduce investment
- Systems are supplied "Ready-to-Run"
- Long life cycle support for product continuity

### Wide Range of Power Source

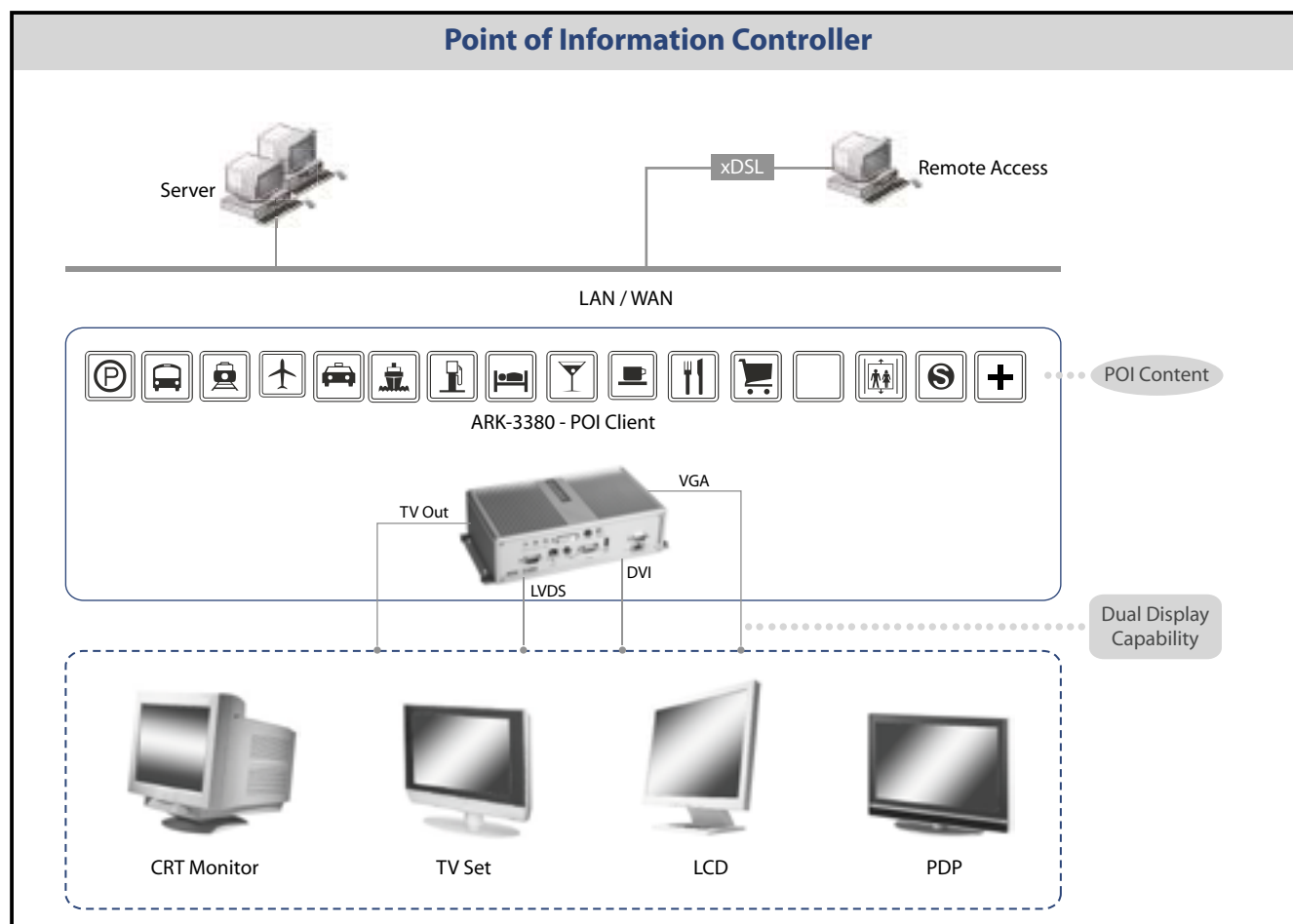
- Wide range of DC 12 V ~ 24 V power source offers flexibility of power input for various automation environments

## Applications

The ARK-3380 offers comprehensive multimedia I/O support featuring dual display, TV-out, DVI, LVDS and SC97 stereo audio.

- POI/POS
- Intelligent Traffic Surveillance
- KIOSK
- Machine Vision System
- Gaming
- Digital Casting System

## Application Examples



# ARK-5280

**Fanless, PC Board Expandable,  
Embedded Box Computer**



## Introduction

ARK-5280 is a powerful, robust and fanless Embedded Box Computer. The high performance ARK-5280 Embedded Box Computer is equipped with socket 479 that supports Intel Celeron-M and Pentium-M processors, which is highly suitable for embedded and industrial PC applications requiring high processor performance within a limited space. Featuring two PCI slots for application expansion and system integration, ARK-5280 Embedded Box Computer also carries four USB 2.0 and four serial port communication I/O interfaces. It can support up to 2 GB DDR SDRAM of main memory and has dual independent display support from the built-in CRT/VGA and DVI interfaces that gives ARK-5280 Embedded Box Computer great flexibility within space critical environments. ARK-5280 is ideal for embedded system applications such as machine automation, and industrial plant and cabinet integration.

## Specifications

### Processor System

- **Processor Support** Supports UFCPGA2, 478-pin embedded Intel Pentium M or Celeron M Processors, and supports up to Intel Pentium M processor 745 at 1.8 GHz
- **System Chipset** Intel 855 GME GMCH Graphics Memory Controller Hub (GMCH)  
6300ESB shared memory architecture, 400 MHz FSB  
Award® 4 Mbit Flash BIOS
- **BIOS**
- **Second level cache** Celeron M processor: 512 KB or 1 MB  
Pentium M processor 1 MB or 2 MB
- **DRAM** Two 200-pin SODIMM sockets,  
Support ECC DDR200/266/333 SDRAM Up to 2 GB
- **Power Management** APM Rev. 1.2, ACPI Supported

### Display

- **Display Controller** Intel 855 GME integrated graphics utilizing Intel Extreme Graphics 2 technology
- **Display Memory** Optimized Shared Memory Architecture, supports up to 64 MB frame buffer using system memory
- **Display Interface** CRT Interface  
DVI interface, compliant with DVI specification 1.0  
Optional Support to LVDS Interface
- **Resolution** Up to 2048 x 1536 @ 24 bpp (75 Hz)

### Ethernet

- **Ethernet Interface** Intel 82551ER 10/100Base-Tx Fast Ethernet controller supports one RJ45 connector on the front metal faceplate

## Features

- Extremely compact, sealed construction with fanless operation, supports Intel® Pentium® M and Celeron® M up to 1.8 GHz
- Dual Independent display supported by built-in system digital DVI and analog VGA/CRT interfaces
- 2 PCI slots for PC board expansion
- Rubber anti-vibration card-holder for PC expansion boards
- Anti-vibration HDD to ensure maximum reliability
- ATX, and wide-range of DC Power Input support: DC 9 V ~ 32 V
- Simple, modularized user-friendly design for quick installation, expansion and easy maintenance

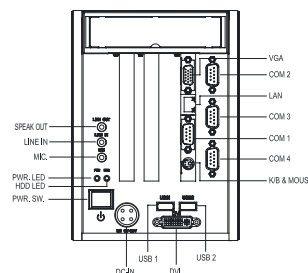
### Audio

- **Audio Interface** Audio controller on the ICH4 chip.  
Realtek® ALC 202 AC97 Codec  
AC97 3D surround stereo sound, Dual 2.2 W Amplifier  
Supports Line-in, Line-out, Mic-in connectors on the front faceplate

### Others

- **Watchdog Timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** One mini-din connector supports PS/2 keyboard and PS/2 mouse
- **Serial Ports** Four serial ports  
COM2: RS-232/422/485 by a DB9 connector on front faceplate  
COM1, COM3 and COM4: three RS-232 by three DB9 connectors on front faceplate
- **USB** Built-in two USB 2.0 ports  
Optional USB Cable-Bracket to support two additional USB 2.0 ports

### Front Panel External I/O Mechanical Layout/Drawing



- SSD
- HDD

- Supports one Compact Flash card type I/II
- Supports one drive bay for 2.5-inch HDD

- **Expansion Slots**

Two built-in PCI expansion slots  
Supports maximum length of 186mm of PCB boards expansion

- **Front Panel**  
**External I/O port**

- 1 x Power On/Off button
- 1 x 4-pole, DC DIN-Jack of power Input connector
- 2 x USB ports
- 1 x DVI port
- 1 x DB-15 VGA port
- 1 x RJ-45 0/100BaseT Fast Ethernet port
- 1 x DB-9 as COM2 for RS-232/422/485

Note: The default setting of COM2 is RS-232. The RS-422/485 mode of COM2 can be supported via replacing the internal cable and adjusting the jumper (JP1) inside the system

- 3 x RS-232 COM Port as COM1, COM3 and COM4
- 1 x Mini-din as PS/2 keyboard
- Speak Out, Line-in and Mic-in connector

- **Output Rating**
- **Input Voltage**

DC 120 W  
9 VDC ~ 32 VDC,  
Supports power input over voltage (32V) protection  
Supports maximum power input:  
9 VDC/14 A @ 126 W  
12 VDC/10 A @ 120 W  
16 VDC/8 A @ 128 W  
19 VDC/6.5 A @ 124 W  
24 VDC/5 A @ 120 W  
32 VDC @ 3 A @ 100 W  
DC 15 A/63 V

- **Construction** Aluminum housing, Pantone silver color
- **Dimensions (W x H x D)** 137 x 189 x 221 mm
- **Weight** 5 kg

- **Software** OS support: Windows 2000, Windows XP, and Windows XP Embedded

<ul style="list-style-type: none"> <li>▪ <b>Operating Temperature</b></li> </ul>	<p>When system is equipped with 2.5-inch HDD without PC expansion boards: 0 ~ 45° C</p> <p>When system is equipped with industrial grade Compact Flash disk without PC expansion boards: -20 ~ 55° C</p>
<ul style="list-style-type: none"> <li>▪ <b>Relative humidity</b></li> </ul>	<p>95% @ 40° C (non-condensing)</p>
<ul style="list-style-type: none"> <li>▪ <b>Vibration Loading During Operation</b></li> </ul>	<p>When system is equipped with 2.5-inch HDD: 1 Grms IEC 60068-2-64, random, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis</p> <p>When system is equipped with industrial grade Compact Flash disk: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis</p>

- Safety
- EMC

- **1 x ARK-5280 Unit**
- **1 x PS2 Keyboard/Mouse Cable** (P/N: 1700060202)
- **1 x Utility CD**
- **1 x Rear Mounting Bracket** (P/N: 1960004454)
- **2 x Bottom Mounting Brackets** (P/N: 1960004453)

Note: 1 of 2 bottom mounting brackets is made for common usage for both table and wall mount

- **1 x Power Cable, DIN-Jack to DC-Plug** (P/N: 1700001861)
- **1 x Flat Cable support RS-485/RS-422 mode for COM2 serial port** (P/N: 1700001967)

- **ARK-5280-1S3A1E** Celeron M 1.3 GHz Embedded Box Computer, with VGA/DVI, Fast Ethernet, 2 x USB, 4 x COM, AC97 Audio, 512 MB DDR SDRAM, 40 GB HDD
- **ARK-5280-1S6A1E** Pentium M 1.6 GHz Embedded Box Computer, with VGA/DVI, Fast Ethernet, 2 x USB, 4 x COM, AC97 Audio, 512 MB DDR SDRAM, 40 GB HDD

- **2070000606** XPE SP2 OS image and license for ARK-5280, English version (440 MB)
- **1757000224** AC-to-DC ADAPTER 4P DC19 V/7.89 A 150 W (ARK-5280)
- **9689071001** Power cord 3P 180 cm USA type
- **170203183c** Power cable 3P 183 cm European type
- **1700001934** Dual-USB cable-bracket for ARK-5280
- **1700002224** Flat cable LVDS +USB port bracket for ARK-5280
- **1700002223** Flat cable printer port bracket for ARK-5280

Unit: mm (inch)



## Benefit

### Fanless Power Computing Performance

- Fanless operation in sealed construction utilizing low thermal emission processors
- Supports Socket 479 type Intel Pentium M and Celeron M processors

### Compact, Extremely Robust Construction

- Robust sealed Aluminum casting construction using a modularized design to offer maximum space efficiency
- Rubber anti-vibration card-holder for PC expansion boards and anti-vibration HDD to ensure maximum reliability

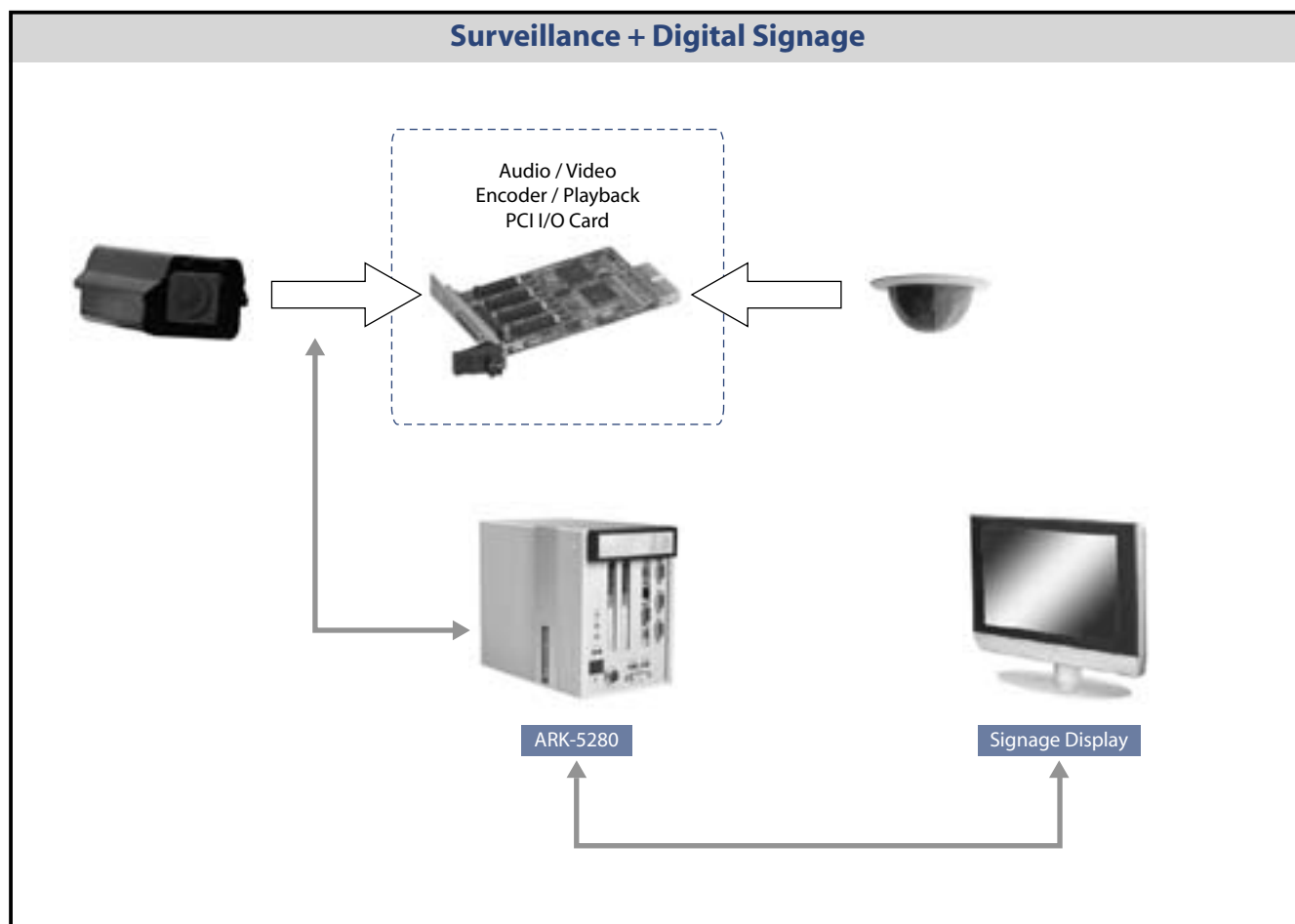
### Highly Optimized Integration

- Simple and modularized service-friendly design
- Quick installation, easy expansion and maintenance
- Systems are supplied "Ready-to-Run"
- Access wide-range of DC 9 V ~ 32 V power input source with ATX support; offers flexibility for various automation environments
- Long life cycle support for product continuity to secure investment

## Applications

- CNC Control
- Machine Cabinets Control
- Industrial Automation
- Transportation in vehicle control

## Application Examples



# ARK-7480

## All-In-One, High Performance Embedded Box computer



### Features

- Support Embedded Intel® Pentium®4/Celeron®D processor
- CRT, DVI, LVDS, display interface with Dual Display capability
- Anti-vibration to HDD and PC Board to ensure maximum reliability
- One side access for all external wiring connections, easy integration, and easy maintenance
- Supports wall mount in horizontal or vertical direction

### Introduction

The ARK-7480 Embedded Box Computer is an all-in-one, powerful and robust unit. The high performance ARK-7480 series is powered by high performance embedded Intel Pentium4 or CeleronD processors up to 2.8 GHz. It supports DDR SDRAM up to 2 GB. The ARK-7480 offers three PCI vacancy slots for user expansion. The ARK-7480 Embedded Box Computer supports abundant I/O ports: six USB 2.0 ports, six COM ports, as well as DVI, LVDS and VGA display interface with a drive bay for accessing 3.5" HDD. An optional external storage expansion kit can be added for CDROM, card readers. It is ideally suitable for diversified embedded system applications requiring highest processor performance and high expandability, such as machine automation, and industrial plant and cabinet integration.

### Specifications

#### Processor System

- **Processor Support** Supports Socket 478, Embedded Intel® Celeron® D processor, and Intel® Pentium® 4 processors up to 2.8GHz
- **System Chipset** Intel 852 GME graphics memory controller hub (GMCH) Chipset  
Intel ICH4 Chipset
- **BIOS** 4 Mbit Flash BIOS, supports Plug&Play, APM 1.2
- **System Memory** Built-in 2 x 184-pin DIMM sockets, support DDR SDRAM up to 2 GB

#### Display

- **Chipset** Integrated graphics built-in Intel 852 GME GMCH chipset, utilizing Intel Extreme Graphics 2 technology
- **Display Memory** Dynamic video memory allocation up to 64 MB
- **Display Interface** CRT Interface  
36-bit LVDS interface  
DVI Interface, compliant with DVI specification 1.0

#### Ethernet

- **Ethernet Controller** Dual Intel 82551 ER 10/100BaseT Ethernet controllers
- **Ethernet Interface** Built-in dual RJ45 ports as LAN1 and LAN2

#### Audio

- **Audio Controller** Built-in audio controller on Intel ICH4 chipset  
Realtek® ALC202 AC97 Codec  
AC97 3D surround stereo sound, dual 2.2 W amplifier
- **Audio Interface** Built-in Line-in and Line-out connectors

#### Others

- **Watchdog Timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** Two mini-DIN connectors support PS/2 keyboard and PS/2 mouse
- **Serial Ports** Support 6 x serial ports:  
COM1, COM3, COM4, COM5 and COM6: RS-232  
COM2: RS-232/422/485 by internal Jumper selection
- **Parallel Port** 1 x Parallel port
- **USB 2.0 Ports** Support 6 x USB 2.0 Ports for model ARK-7480-100A1  
Support 4 x USB 2.0 Ports for model ARK-7480-200A1

#### Expansion

- **Expansion Slots** 3 x PCI expansion slots  
1 x miniPCI Slot, access from the bottom  
PCI Rev. 2.2 compliant

#### Storage Dive Bay

- **SSD** Support 1 x CompactFlash socket for Type I/II CompactFlash disk
- **HDD Drive** Support 1 x drive bay space for 3.5" HDD

#### Extended Dive Bay (only for Model ARK-7480-200A1)

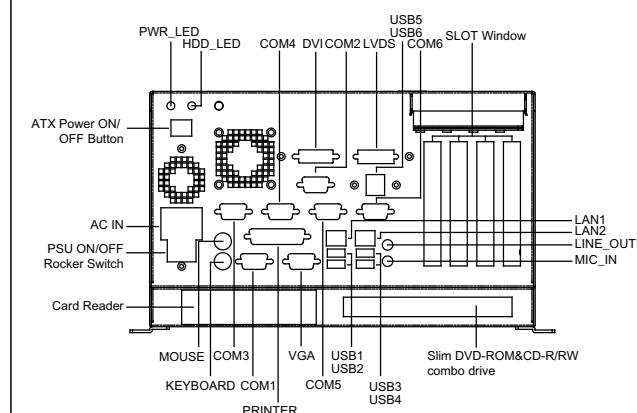
- **Card Reader Drive** Built-in 1 x USB 2.0 interface of card reader, supports SecureDigital Card, MultiMedia Card, Memory Stick(Pro), 3.3 V SmartMedia Card, xD-Picture Card, Type I/II CompactFlash Card, and IBM Microdrive
- **Optical Drive** One built-in slim DVD-ROM&CD-R/RW of 8 D/24 W/24 E/24 R combo drive

## Front Panel External I/O

### One ATX Power On/Off Button!

- 1 x power supply rocker on/off switch
- 1 x PS/2 mouse connector
- 1 x PS/2 keyboard connector
- 5 x RS-232 serial port as COM1, COM3, COM4, COM5 and COM6 connector
- 1 x RS-232/422/485 serial port connectors as COM2 connector
- 6 x USB 2.0 connectors as USB1~USB6
- 2 x RJ-45 connectors as LAN1 and LAN2
- 1 x Printer port connector
- 1 x VGA/CRT port connector
- 1 x DVI port connector
- 1 x LVDS port connector
- 1 x Speak\_Out connector
- 1 x Line\_In connector

## Front Panel External I/O Mechanical Layout/Drawing



## Internal AC-to-DC ATX Power supply unit

- Output Rating** AC 250 W, ATX
- Input Voltage** 110 VAC ~ 240 VAC
- Power Switch** One On/Off rocker switch

## Mechanical

- Construction** Aluminum-Metal housing
- Mounting** Supports table mount and Wall-mount
- Dimension**
  - For Model ARK-7480-100A1: 295 mm x 150 mm 260 mm
  - For Model ARK-7480-200A1: 295 mm x 180 mm x 260 mm
- Weight** For Model ARK-7480-100A1:

## Environmental Specifications

- Operation Temperature** 0 ~ 45° C
- Relative humidity** 95% @ 40° C (non-condensing)
- Vibration Loading** 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10 Oct./min., 1hr/axis.
- Shock During Operation** 10 G, IEC 60068-2-27, half sine, 11ms duration
- Safety** UL, CB
- EMC** CE/FCC

## Packing List

- **1 x ARK-7480 Unit** x Table Mounting Kit (P/N: 1960003950 x 2 pieces)
- **1 x Wall Mounting Kit** (P/N: 1960003949 x 2 pieces)
- **1 x Utility CD**
- **1 x Table Mounting Kit** (P/N: 1960003950 x 2 pieces)
- **1 x IDE HDD Cable, 40/40/40, 60cm** (P/N: 1700001757)

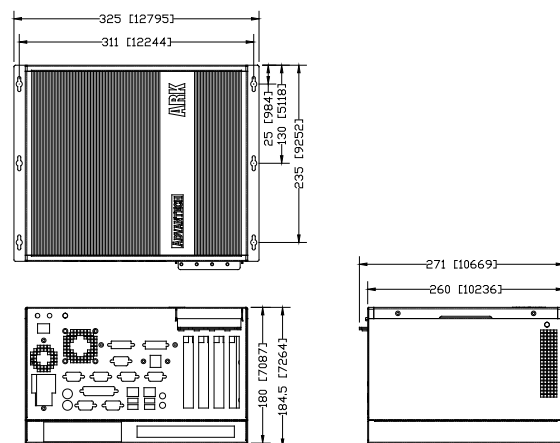
## Ordering Information

- **ARK-7480-100A1E** Socket 478, Pentium4 based Embedded Box Computer, with LVDS, DVI, 6 x USB 2.0, 1xRS-232, 5 x RS-232/422/485, Dual Fast Ethernet, Audio, and 3 PCI slots
- **ARK-7480-200A1E** Socket 478, Pentium4 based Embedded Box Computer, ARK-7480-100A1 with extended drive bay

## Optional Items

- **2070000635** XPE SP2 OS Image and License for ARK-7480, English version (440 MB)

## Dimensions



Unit: mm

## Benefits

### Six USB Ports, Six Serial Ports, and Dual LAN Port Capacity for intensive control and communication

- The ARK-7480 supports six USB 2.0 ports, enabling access to USB peripherals such as storage subsystems, security ID devices, card readers, bar code scanners, multifunction printers and scanners individually dedicated or shared among users via the network, making the best of USB device investments
- The ARK-7480 is equipped with dual fast Ethernet and a six serial ports, including one RS-232/422/485 serial port and five RS-232 serial ports that enable communication and control at the field level for measurement and operator control of diverse automations, such as embedded device servers for storage, image printing, medical applications, as well as security and access control for POI/POS/Kiosk

### Compact, Extremely Robust Construction

- Robust, heavy-duty metal cast construction; modularized design offers maximum space efficiency
- Rubber anti-vibration card-holder for PC expansion boards to ensure maximum reliability
- A special cushioned design that absorbs vibration of HD to ensure maximum reliability

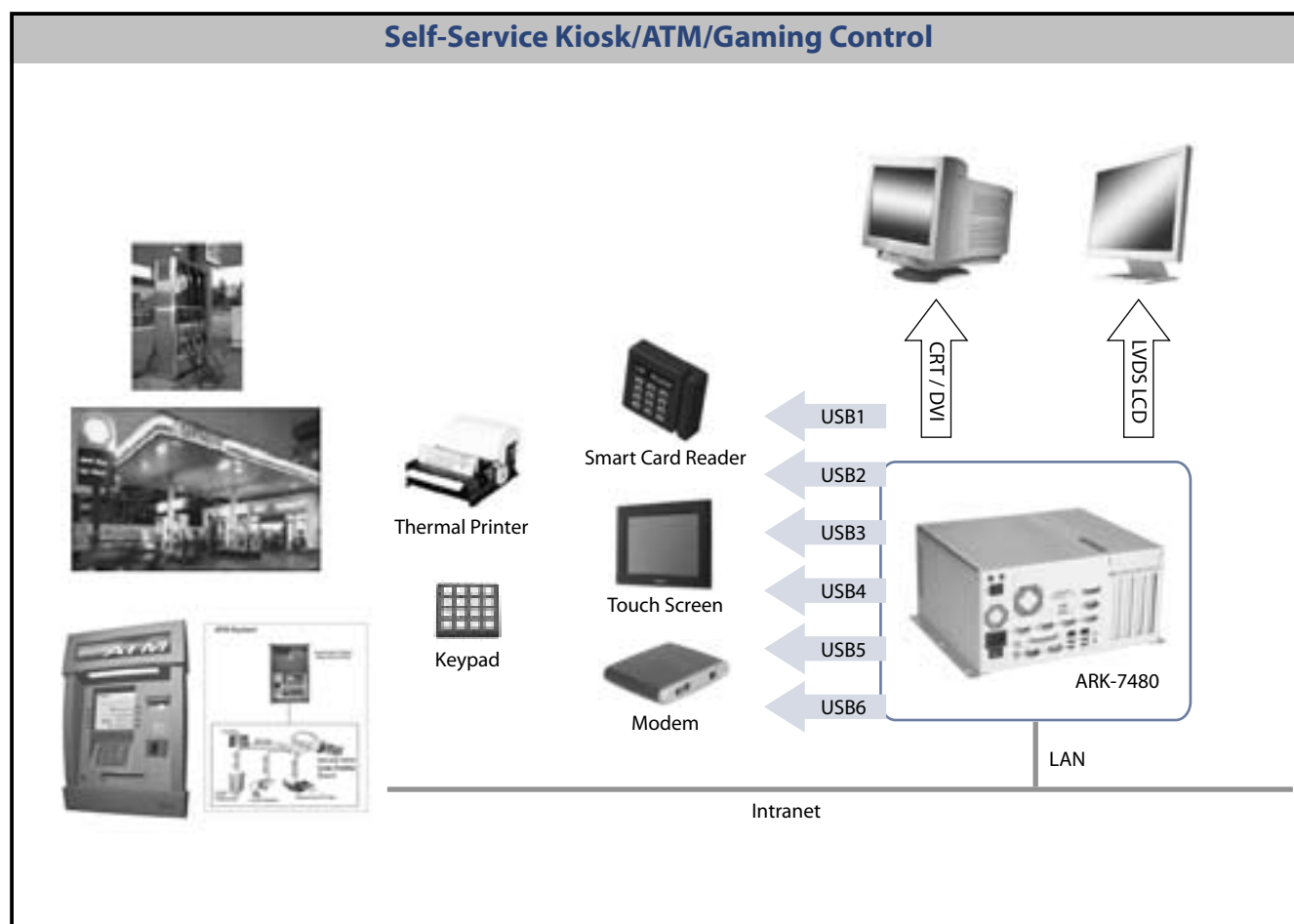
### Highly Optimized Integration

- Simple and modularized service-friendly design
- Quick installation, easy expansion and maintenance
- Systems are supplied to "Ready-to-Run"
- Long life cycle support for product continuity to secure investment

## Applications

- KIOSK
- Petrol Station
- ATM
- Gaming

## Application Examples





# ARK-9880

**Full Length, PC Board Expandable,  
Embedded Box Computer**



## Features

- Supports FSB 400, 533 and 800 MHz base of Embedded Intel® Pentium® 4/ Celeron® D processor
- Supports full length PC Board expansion
- Anti-vibration to HDD and PC board to ensure maximum reliability
- One side access for all external wiring connections, easy integration, and easy maintenance
- Drive bay supports one slim CD/DVD optical drive device and two 3.5-inch HDD
- Supports wall-mount/table-mount
- Supports 3 PCI vacancy slots and 3 ISA vacancy slots for PC board

## Introduction

The ARK-9880 Embedded Box Computer series is a robust and powerful computer powered by Intel Hyper-Threading technology processors and chipsets: embedded Intel® Pentium® 4 or Celeron D, up to 3.4 GHz. The ARK-9880 supports high performance DDR SDRAM up to 4 GB. The series supplies three PCI slots and three ISA slots for expansion. The series is ideally suited for building diversified, embedded system applications that require the highest processor performance and scalable expansion: machine automation, industrial plant operation, and cabinet integration.

### Freedom to Maximize Industrial Application's Value

- The ARK-9880 Embedded Box Computer supports three PCI vacancy slots and three ISA slots for flexible expansion capability

### Compact, Extremely Robust Construction

- Robust, heavy duty metal casting construction using a modularized design to offer maximum space efficiency
- Rubber anti-vibration card-holder for PC expansion boards and anti-vibration HDD to ensure maximum reliability
- A special cushioned design that absorbs vibration of HDD to ensure maximum reliability

### Highly Optimized Integration

- Simple and modularized service-friendly design
- Quick installation, easy expansion and maintenance
- Systems are supplied to "Ready-to-Run"
- Long life cycle support for product continuity to secure investment

## Specifications

### Process Core Logic System

- **Processor Front Side Bus Speed Support** 400 MHz, 533 MHz and 800 MHz
- **Processor Socket** Support socket 478, Intel Pentium 4 and Celeron D processors of: Pentium 4 processor with HT technology at Front Side Bus speed of 800 MHz Up to 3.4 GHz (L2 Cache: 512 KB) Pentium 4 processor at Front Side Bus speed of 400 MHz and 533 MHz Up to 2.8 GHz (L2 Cache: 512 KB) Celeron D processor at Front Side Bus speed of 533 MHz Up to 3.2 GHz, (L2 Cache: 256 KB) Celeron processor at Front Side Bus speed of 400 MHz Up to 2.5 GHz (L2 Cache: 128 KB)
- **System Chipset** Intel 865 GV graphics memory controller hub (GMCH) chipset  
Intel ICH5 (82801EB) chipset  
Supports hyper-threading technology  
Support IDE and SATA storage device
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** Built-In 4 x 184-pin DDR DIMM sockets  
Supports DDR200/266/333/400 SDRAM up to 4 GB
- **Display**
- **Chipset** Integrated 2D/3D graphics engine built-in Intel 865 GV GMCH chipset
- **Display Memory** Share system memory up to 64 MB, BIOS selectable
- **Display Interface** CRT/VGA Interface

## Ethernet

- **Ethernet Controller** Built-in Ethernet controller of LAN connect interface controller on ICH5 chipset with 82562EZ 10/100Base-T platform LAN connect (PLC) device controller
- **Ethernet Interface** Built-in 1 x RJ45 connector supports 10/100BaseT Ethernet connection

## Audio

- **Audio Controller** Built-in Audio controller on Intel ICH5 chipset Realtek® ALC202 AC97 Codec  
AC97 3D surround stereo sound, Dual 2.2 W amplifier
- **Audio Interface** Built-in Line-in, Line-out and Mic-in connectors

## Others

- **Watchdog Timer** 255 Levels timer interval, setup by software
- **Keyboard/Mouse** One mini-DIN connector support PS/2 keyboard and PS/2 mouse
- **Serial Ports** Supports 2 x RS-232 serial ports as COM1, COM2
- **USB** Supports dual x USB 2.0 ports

## Expansion

- **Expansion Slots** 3 x PCI Expansion Slots  
3 x ISA Expansion Slots, with ISA high drive support

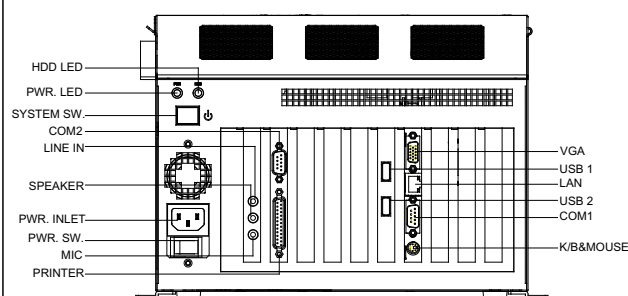
## Storage

- **Optical Drive Bay** Supports 1 x drive bay space for slim type optical device as CD/DVD ROM drive device
- **HDD Drive Bay** Supports 2 x drive bay spaces for ATA-100/66/33 or SATA interface of 3.5" HDD

## System External I/O

- **Front Metal Panel External I/O port** 3-pin AC power input connector  
1 x ATX power On/Off button  
1 x PS/2 connector support PS/2 keyboard and PS/2 mouse  
1 x DB-25 female connector to support parallel port  
2 x DB-9 male connectors to support RS-232 as COM1 and COM2  
1 x DB-15 female connector to support CRT/VGA  
2 x USB 2.0 connectors  
1 x RJ-45 connector

### Front Panel External I/O Mechanical Layout/Drawing



## Internal AC-to-DC ATX Power Supply Unit

- **Output Rating** AC 300 W, ATX
- **Input Voltage** 100 VAC ~ 240 VAC, 60 ~ 50 Hz, 6 ~ 3 A
- **Fuse Rating** 6.3 A/250 V
- **Power Switch** 1 x On/Off Rocker Switch

## Mechanical

- **Construction** Metal housing construction
- **Dimensions (W x H x D)** 282 x 375.8 x 208.9 mm
- **Weight** 8.2 kg

## Software Compatibility

- Windows 2000, Windows XP

## Environmental Specification

- **Operating Temperature** 0 ~ 45° C
- **Relative Humidity** 0 ~ 95% @ 40° C (non-condensing)
- **Vibration During Operation** 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10 Oct./min., 1hr/axis.
- **Shock Levels During Operation** 10 G, IEC 60068-2-27, half sine, 11 ms duration
- **Safety** UL
- **EMC** CE/FCC

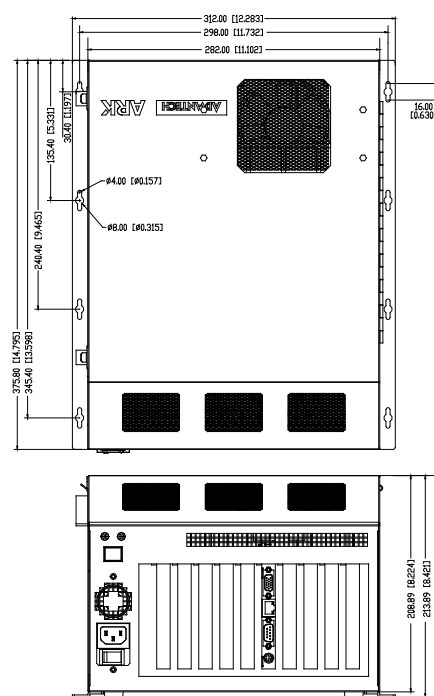
## Packing List

- 1 x PS2 Keyboard/Mouse Cable
- 1 x Table Mounting Kit

## Ordering Information

- **ARK-9880-100A1E** Socket 478, Pentium4 based Embedded Box Computer, with 2 x USB, 2 x COM, 1 x Fast Ethernet, Audio, 3 x PCI slots and 3 x ISA slots

## Dimensions



Unit: mm (inch)

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